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Prosperous New Year

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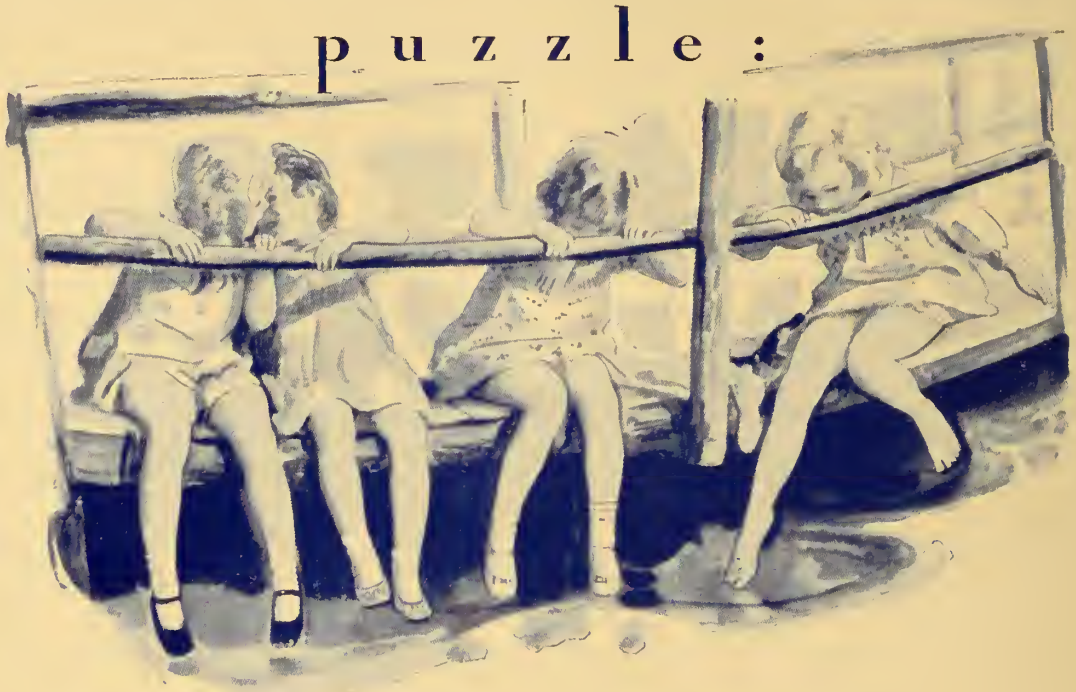

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HEAD INJURIES*

By William R. Geraghty, M. D.
Baltimore, Md.

In this day of mechanized high speed, head injuries constitute one of the common serious traumatic lesions with which the surgeon has to deal. Formerly skull fracture (I think the term head injury is preferable) was mostly seen in young active workmen. Nowadays sex and age cannot be considered factors. Certainly in cities when the school vacation is in effect, it may well be the majority occur in children. Examination of the hospital "File by Diagnosis" will afford you a surprise at the frequency of this type of patient. Often the head trauma is associated with other and sometimes more serious lesions such as intrathoracic and intra-abdominal injuries which have a high mortality. Frequently contusions, lacerations and fractures are concomitant and these add the danger of purulent infection or tetanus. However, the high mortality of 35 to 50 per cent from intracranial injury *per se*, that prevailed 20 years ago, has been reduced far down to 16 or 18 per cent. The figures I think you will find to be the average throughout. Occasionally a 14 per cent, or even 12 per cent mortality rate is reported, but only over a short period; in a few years it will climb back to the 16 or 18 per cent level. When you consider this mortality embraces only those head cases that are injured seriously enough to be hospitalized beyond the observation period, a fatality of one out of six is a decided improvement over one out of every two or three. Perhaps eventually the percentage of deaths will be further reduced, but there is always the certainty of a reasonably high mortality rate. Regardless of all and any forms of treatment, some profoundly injured head cases will die.

This is not the place to go into a classification of head injuries by anatomical location, type of lesion or symptom manifestation. Any of the text-books will afford you this information. Nevertheless, the injuries clas-

*Read before the Kanawha Medical Society at Charleston on September 8, 1936.

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sified as compound fracture and as depressed fracture of the skull still hold their place in the necessity for surgical treatment. Within this group are the penetrating and perforating wounds that require immediate interference. It is these cases that will continue to keep the mortality statistics elevated; death resulting from immediate hemorrhage, or rapid compression or at a later date from the development of infection. Fortunately most of the head injuries we see are not of this type, and there is no reason for surgical attack. I do not mean by this that we *never* find it necessary to perform a decompression operation, but it is quite a rare exception when we do resort to the opening of the skull simply for the relief of pressure. It seems a long distance back to the days when the surgical chief would leave instructions to be called when the pulse rate went to 50 or below; then to perform a subtemporal decompression, under ether anesthesia, on a patient already bound for the beyond. However, craniotomy is not at all infrequent for the relief of extradural hemorrhage or subdural clot, either of which will produce increased intracranial pressure, and neither of which is cured by dehydration or spinal tap.

Most of the patients admitted to the hospital with head injuries that are kept beyond the observation period of 24 to 48 hours will have linear fractures of the vault or base of the skull. Sixty per cent of the vault fractures extend into the base. If not unconscious on arrival, there is a history of a temporary loss of consciousness and they will frequently vomit while in the accident room. Whether or not the skull is fractured, seems to mean a lot to the lawyers; to us it is only an indication of the amount and type of force. The location of the fracture, if one exists, may furnish information of some value in diagnosis and treatment. For this reason it is always advisable to get röentgenograms of the skull, and I like stereoscopic films. If convenient, this may be done before sending the patient to the ward. If badly shocked, ignore the x-ray examination at this time and treat the patient for the shock. *Do not forget that many serious head injuries do not have a demonstrable fracture.* Here let me say that cases of head injury are best treated in the hospital where they can be observed constantly by trained help. And too much emphasis cannot be placed on the need for a second or third year man in the hospital accident room. No doubt, every one here has recollections of an unpleasant or embarrassing episode. It may have been an oversight of the intracranial injury in the man brought in drunk, or the failure to consider the possibility of an extradural hemorrhage in the boy struck on the head by a baseball. The accident room man is instructed to admit doubtful cases for observation.

Cases admitted to the hospital are carefully observed and a 15-minute record of the pulse is kept and charted. Systolic and diastolic blood pressure is taken on admission and every hour thereafter and this also is recorded. Respiration and temperature are recorded every three hours and notation is made of color of skin and mucous membranes. If the patient is being treated for shock he is kept warm and in the horizontal position. Adrenalin, atropine or ergot is sometimes given. When the temperature rises to normal or above and he is out of shock, the head of the bed is elevated and an ice cap applied. Magnesium sulphate is administered, the initial dose being two ounces of a saturated solution. If vomited, it is administered by rectum. We repeat this at four hour intervals for several doses or until a good catharsis is produced. Meanwhile, the fluid intake is restricted from 600 to 750 cc. in twenty-four hours. Additional treatment by hypertonic glucose (50 per cent solution intravenously) is sometimes required for dehydration. This method of elimination with magnesium sulphate and limitation of fluid intake, was popularized in Frazier's clinic and will suffice in a great number of cases to prevent a marked rise of intracranial pressure. It will also in some cases completely relieve a traumatic edema that has developed. Sedatives are

sometimes required in addition to the above for the relief of headache, restlessness, insomnia and emotional disturbances. And for this we use bromides, the barbiturates or coal tar drugs. We do not use hypertonic salt solution intravenously, nor have we used magnesium sulphate by the hypodermic or intravenous method. Morphine is taboo because of its danger as a respiratory depressant.

As to spinal puncture there is much to be said for and against. It is a very useful procedure but I have learned that you cannot indiscriminately tap the subdural space in every case of head injury. Certainly it will quickly lower intracranial pressure and should be used when there is indication for a quick reduction. It goes without saying that the rate of pressure reduction is accurately measured with a spinal manometer. Localized subdural clot, extradural hemorrhage, or intracerebral hemorrhage are not helped by lumbar puncture and indeed in these cases rapid alteration in pressure may prove fatal. Yet we sometimes carefully perform lumbar puncture as an aid in the diagnosis of extra or subdural hemorrhage, getting information of value from the pressure and color of the fluid. I believe that blood in the cerebrospinal fluid will lower the rate of absorption of this fluid and spinal tap for the removal of bloody fluid is of help.

It goes without saying that the treatment of head injuries is not solely based on intracranial pressure and intracranial hemorrhage and it is a comfortable feeling to know that you have a neurologist handy to help in localization, to concur that the cranial nerve lesion is peripheral or central, or that it is either primary or secondary to edema or hemorrhage.

Most of the head injuries are treated by the general surgeon and probably will continue to be. Therefore, he should fortify himself with a good knowledge of neurosurgery or have available on the hospital staff a consultant neurosurgeon.

Some of the hospitals with a large number of accident cases rotate the head injuries all to one service and this has proven quite satisfactory. If cared for properly, a relatively small number of head cases in the house is sufficient to keep a lot of people busy and is surely concern enough for the responsible surgeon.

SKULL FRACTURES*

By R. E. PICKETT, M. D.
Morgantown, W. Va.

THIS subject is today the leading challenge to our profession. There are more than 125,000 head and spine injuries each year and this number is gradually increasing. No other problem requires such accurate diagnosis, such immediate attention or such continuous supervision. During the World War our treatment in these cases was inclined to be radical, but in recent years the pendulum has swung to conservative extremes. "Too often the patient is intrusted to time, prayer and the proverbial ice bag.' We are all familiar with the statement that 60 per cent of all skull fractures recover regardless of the treatment and that 20 per cent die in spite of any treatment. This pessimistic fatalism is not in keeping with our surgical traditions. The mortality rate must be lowered and many of the tragic sequelæ commonly observed must be prevented. The facts and impressions presented in this paper are based on a review of the literature covering over 15,000 actual cases.

We are more concerned with the intracranial damage than with the actual fracture in the majority of the cases. The fracture is often helpful in locating the damage but it

*Presented at Monongalia County Hospital Staff Meeting, July 6, 1936.

is secondary importance unless it is compound or depressed or enters a paranasal sinus or the mastoid region.

All head injuries are emergencies and must be considered serious until proven otherwise. In order to treat them intelligently the surgeon must acquaint himself with cerebral hydrodynamics and pathoneurology. He must be able to recognize signs and symptoms and correlate them properly. Since the clinical picture is constantly changing, only the closest observation will enable him to make a correct interpretation.

Each case presents a new pathological picture. If there is a fracture it may be simple or compound; linear or depressed. There may be only a simple contusion with edema or a laceration with hemorrhage. Often there are multiple petechial hemorrhages or concussion. The hemorrhage may be subdural or subarachnoid. With any of these conditions or a combination of them, there may be increased intracranial pressure. This increased pressure may be due to edema or hemorrhage, or it may be caused by hydraulic pressure in the cerebrospinal fluid system. This last factor has long been overlooked. In 1928 Swift advocated the theory that the ventricles and cisterns through which the cerebrospinal fluid passed should be considered as reservoirs for the storage of water to be called on when necessary to maintain the blood pressure. This system is subject to the ordinary physical laws of hydrodynamics. Again in 1936 Swift shows us that brain damage from external trauma is more frequently a result of hydraulic pressure than of hemorrhage. Damage is produced when there is resistance to the forced flow of fluid through the Aqueduct of Sylvius and the funnel-like openings between the chiasmal basilar cistern and the cortico-arachnoid cisterns. The increased pressure causes necrosis of the tissue around the opening with the symptoms depending upon the location of the damage. A sudden flow of fluid through the third ventricle may cause respiratory difficulty, unconsciousness and low blood pressure. Likewise pressure necrosis of the underside of the frontal lobes may cause ocular changes, mental disturbances and maniacal outbursts. Since a maintained cerebrospinal fluid balance is such a determining factor in both morbidity and mortality, any disturbance of this balance must be rectified as soon as possible to prevent increased damage.

In order to evaluate properly the signs and symptoms one must keep in mind the ever changing clinical panorama. In the early stages a simple contusion may have the same clinical picture as a severe laceration with hemorrhage, and a lacerated cortex may be almost identical with concussion with marked edema. What are we to learn from our record charts? What symptoms can we expect?

Shock is present in about 70 per cent of all cases, especially if there is a fracture. It may be general shock with its weak pulse, cold, clammy skin, pallor, lowered blood pressure and temperature, or grafted to this may be another picture—that of cerebral shock with unconsciousness, slow, full pulse, elevated blood pressure, slow stertorous breathing and normal temperature. Although the clinical picture may be confusing, it is usually safe to take shock for granted.

Changes of temperature are of important prognostic value. It usually varies from 99 to 102°. It may be subnormal with initial shock and rise with increased intracranial pressure. Except in children a rectal temperature above 103° carries a grave prognostic aspect.

The blood pressure should be taken frequently because a rapidly changing level denotes increased medullary compression. It is easy to misinterpret because there is often a marked discrepancy between the spinal fluid pressure and the blood pressure. The pulse pressure is of great significance. When it equals the systolic pressure the prognosis is grave. Irritation of the vasoconstrictor center causes paralysis with dilatation and drop of the diastolic pressure.

The pulse is a variable sign. It usually

persists between 60 and 90. A very slow pulse is rarely seen even with greatly increased intracranial pressure. Changes in the pulse rate are often missed due to irregular and careless timing. "A pulse which varies in rate and volume denotes a losing fight in an effort toward compensation."

Although respirations commonly behave in the same manner as the pulse, an increase in respirations is the sensitive sign of increased pressure or of infection. Decompensation results in rapid, shallow, irregular, or Cheyne-Stokes respiration. Respirations are rarely counted and charted accurately.

Disturbed consciousness is present in nearly every case, varying from a dazed state to prolonged coma. McClure and Crawford state that the longer the period of unconsciousness the worse the sequelæ will be after recovery.

Convulsions, when they occur, are usually significant. Jacksonian types denote injury to the motor cortex. If there are rigidities or increased reflexes of the lower extremities, one must think of injury to the longitudinal superior sinus. Decerebrate rigidity indicates a fatal outcome. Catatonic states occasionally occur with or without aphasia.

Reflexes constantly change and are difficult to interpret. If the abdominal and cremasteric reflexes are persistently absent the outlook is grave. That is also true of rapidly changing reflexes.

The pupils may show important changes, especially in the earlier stages. A dilated pupil was observed in about five per cent of the cases reviewed. In early fatal cases the pupils sometimes remain fixed and unequal. Other eye findings are variable. Choked disc is extremely uncommon, especially early. Papilledema is observed in a surprisingly few cases. Diplopia is occasionally observed but it usually comes on late and usually denotes subdural hemorrhage, persistent contusion or localized encephalitis. Nystagmus is another late sign occasionally observed. There is sometimes an alternating oculomotor paralysis in middle meningeal hemorrhage due to pressure of blood in the superior orbital fissure or in the cavernous sinus.

Vomiting is a variable symptom. It is more common in children and usually occurs in the first few hours. It may be bloody. Late manifestations indicate increased pressure.

Urinary incontinence is occasionally seen with severe shock or severe brain damage. It must be differentiated from that of spinal origin.

Bleeding or leakage of spinal fluid from the orifices denotes a fracture usually basal.

Having carefully studied our patient, what are we to do for him? The treatment is specific in each case but there are certain "common sense principles" which must serve as a basis for our treatment. There is considerable controversy even now over certain major principles among some of our outstanding surgeons in the leading institutions. I shall try to present as near a cross section of their opinions as is possible.

First of all, every head injury should be in experienced hands if possible. Under no circumstances, however, should the patient be moved any great distance to the specialist.

Since shock is responsible for most early deaths, the patient should be kept flat in bed and not disturbed for x-ray, lumbar puncture or other procedure until shock is overcome. A complete examination should be made though to rule out some other emergency such as a ruptured liver, bladder or spleen. Fractures of the extremities should be splinted but not reduced. The patient must be kept warm. Intravenous glucose (10 to 15 per cent) may be given if it does not upset the patient unduly. Stimulants such as caffeine sodiobenzoate may be used if necessary, but morphine must never be used even if the patient is delirious. It adds to respiratory depression already present and cloaks important signs and symptoms. Barbiturates, bromides or chloral hydrate may be used for restlessness or delirium. Scalp wounds may be shaved and cleaned but should never be sutured with the patient in shock. Urine

should be obtained as soon as possible, catheterizing if necessary. A blood count may be the first evidence of any early peritonitis. If there is bleeding from the orifices, they should be carefully cleaned and protected with sterile cotton. They must never be irrigated.

After shock is overcome, x-rays should be taken of every head injury. Too many cases are overlooked until they develop signs of hemorrhage after leaving hospital. Dandy believes that routine x-rays are futile.

The patient should then be placed in Fowler's position with sideboards if necessary. An ice bag should be applied to the head. Unconscious patients should receive duodenal tube feedings for nourishment.

Dehydration should be instituted as soon as shock is overcome. Fluids should be limited to 1000 cc. daily. Hypertonic glucose or magnesium sulphate enemas should be repeated every six to eight hours or whenever signs of headache, restlessness or other signs of increased intracranial pressure are present. Dehydration is often stopped too soon, resulting in a marked increase in pressure. With the exception of Dandy, Wright and a few others, all leading men feel that dehydration methods are an important adjunct to head injury therapy.

Lumbar puncture is indicated if the increased pressure does not respond to dehydration. It should be done slowly with the patient in the horizontal position. The usual mistake is that an insufficient amount is removed to relieve the increased pressure. Needless to say, a spinal fluid manometer must be used. Lumbar puncture is seldom indicated during the first twelve hours. Some of the indications are: persistant coma, slowing of the pulse, irrational state, persistent restlessness, unstable blood pressure, severe headache, or the finding of blood in the fluid from the previous tap.

Operative treatment is justifiable only when there are localizing signs of injury in an accessible area. Some of the indications are: depressed or compound fractures, subdural or middle meningeal hemorrhage. Operation is of an emergency nature in compound fractures and extradural hemorrhage. In most cases it is not indicated during the first twenty-four hours. The longer it can be postponed, except in the cases mentioned, the better the prognosis.

There are a few specific types of head injury worthy of consideration: Compound fractures are truly emergency cases, especially if there is a depression. No preliminary suturing of the scalp should be allowed. The depression should be examined only by the operating surgeon. There are often linear fractures associated with small and apparently trivial scalp wounds. The wounds should be carefully cleaned and packed with Dakin's pledgets until shock is overcome. The head should be shaved after the patient arrives in the operating room. X-rays should be studied carefully. The operation must be performed in the first forty-eight hours or postponed for six months. The depressed area should be removed in bloc if possible, especially in the frontal region. The cosmetic result should be kept in mind. A Cushing tripod incision may be used but in most instances the flap method is the most satisfactory. Large pieces of bone should not be replaced. Smaller pieces may be sterilized and then replaced.

Extradural Hemorrhage: Usually there is middle meningeal hemorrhage. Osteoplastic flap operation is the method of choice. It is often wise to make diagnostic trephine holes in two or three places to locate the clot. The dura need not be opened unless bulging is present. Most men prefer to leave a drain in the epidural space, removing it the following day. Flap operations usually assure a shorter convalescent period than subtemporal decompressions.

Subdural Hemorrhage: Operation in these cases is unsatisfactory. The majority of the hemorrhages are not localized. Subtemporal decompression is the procedure of choice.

Fractures Involving the Sinuses: The rhinologist is best prepared to treat these cases. The majority are asymptomatic and are usually left alone. The patient should

not be allowed to blow his nose or use a nasal douche. Compound fractures should be operated on as soon as possible. Care should be taken to inspect the posterior wall. Meningitis occurs in 0.5 to 0.8 per cent of these cases.

The surgeon's responsibility does not end when the patient leaves the hospital. The after care is of the greatest importance. The patient should limit his mental exertions, restrict his fluids and keep good habits. Dehydrating agents should be used from time to time. Good psychotherapy is essential in our day of industrial compensation and liability suits. Inadequate rest usually results in traumatic neuroses, headaches, vertigo or mental depression. Traumatic epilepsy occurs in 10 to 40 per cent of the cases. Other important sequelæ are: traumatic encephalitis, brain abscess, brain cysts, chronic pachymeningitis or arachnoiditis. Encephalography is an important diagnostic and therapeutic instrument in these cases.

I will conclude by urging all responsible surgeons to aid in instructing nurses and hospital attaches in the proper handling of head injury cases and to keep records so that it will be possible properly to evaluate our present therapeutic methods.

BIBLIOGRAPHY

Earley, Daniel E.: J. A. M. A. 104: 2332, 1935 (June).
Gurdjean, Elisha S.: Ann. Surg. 1933 (March).
Conners, John F. and Wright, Louis T.: Ann. Surg. 1934 (November).
Bates, Charles O.: Am. J. Surg. 30: 66-68, 1935 (October).
Munro, Donald: New England Jour. Med. 213: 551-558, 1935 (September).
Fay, Oliver J.: Western J. Surg. 43 150-155, 1935 (March).
Gurdjean, Elisha: Ann. Surg., 1935 (July).
Ireland, Jay: Arch. Surg. 24 23-39, 1932 (January).
Mock, Harry E.: J. A. M. A. 97 1430-1436, 1931 (November).
Mock, Morrow, and Shannon: Internat. Surg. Digest. 17 323-341, 1934 (June).
Dandy, Walter: J. A. M. A. 101 772-775, 1933 (September).
Jackson, Harry: J. A. M. A. 100 731-733, 1933 (March).
Davis, T.: Internat. Jour. Med and Surg. 621, 1930.
Fay, Temple: J. A. M. A. 94 245, 1930.
Swift, George: S. G. O. 62 340-346, 1936 (February).
Wright, Greene, and Smith: Arch. Surg. 27 878-896, 1933 (November).
Dixon, O. J.: Arch. Otolaryngol. 3 57-58, 1926 (January).
Yerger, C. F.: Arch. Otolaryngol. 4 35-45, 1926 (July).
Maclaire, A. S.: J. A. M. A. 86 670-673, 1926 (March).
Shea, John J.: J. A. M. A. 96 418-420, 1931 (February).
Langdon, H. M.: Arch. Ophth. 9 980-981, 1933 (June).
Kennedy, Foster: Arch. Neurol. & Psy. 27 811, 1932 (April).
McKean, W. H.: Internat. Jour. Med. Surg. 46 201-218, 1933 (May).
Brown, R.: West. Jour. S. G. and O. 43 371-377, 1935 (July).
Coleman, C. C.: Va. Med. Mo. 59 204-207, 1932 (July).

EARLY PEDIATRIC SUPERVISION

Medical supervision of a child from birth should be assumed by the trained pediatrician, and a schedule of examinations should be planned especially for his welfare, says Pearl Riggs Crouch in her interview with Dr. F. P. Gengenbach which appears in the December *Hygeia*.

The following plan of starting routine medical care of the child from birth to adolescence is suggested:

The new-born infant should be thoroughly examined as soon as possible after birth; congenital defects should be noted and temporary conditions remedied. After lactation has been established the baby should be taken to the pediatrician for his first periodic examination; then once a month for the first six months; then every two months until he is one year old.

Sometimes during the first six months and preferably before the third month the baby's urine should be examined, a full blood count made, including hemoglobin, red, white and differential counts, and coagulation and bleeding times. A tuberculin skin test and an x-ray examination of the chest should also be made.

Before the end of the first year the baby should be vaccinated against smallpox and immunized against diphtheria. As soon as it is definitely proved to be effective and harmless to the child, immunization should be added against whooping cough and scarlet fever and, in time, possibly tuberculosis.

With the beginning of the second year of life the child should again have a complete physical examination, and the full routine laboratory tests should be repeated. He should be seen every three months for physical, mental and dietary supervision, and during the year another x-ray examination of the chest and, if indicated, of the sinuses, should be made.

THE RELATIONSHIP OF NASAL ACCESSORY SINUS INFECTION TO NON-TUBERCULOUS CHEST INVOLVEMENT*

By A. A. SELETZ, M. D.
Charleston, W. Va.

THE relationship of nasal accessory sinus infection to certain chest involvements of a non-specific nature is a subject of great interest, to both the rhinolaryngologist and the medical man practicing medicine from the neck down.

The nose and throat men were not only the first to have observed such a relationship, but still are leading in research in this important field. My personal study of the subject has led me to the belief, almost a conviction, that evolution and our privileged upright position are both indirectly and largely responsible for some of these chest ailments. Of course, there are other causes. In order to make the subject more comprehensive it is necessary to descend the animal kingdom, observe the simplest pulmonary appartus, take an elevator back to the human head with its underlying respiratory tract and note the marked difference. The interpretation of such difference throws a great deal of light on the subject about to be considered.

The Australian lung fish (Lepidoseren, Protopterus) has a pulmonary apparatus which is the most primitive and is the simplest of its kind. The fish lives in mud and leads a very sluggish existence. Hence, it does not consume much oxygen. It fills its lungs with air at long intervals. The animal takes in air by gulping it with the mouth and forcing it into the lung by contraction of the pharyngeal constrictor muscle. The air is not drawn in by suction secondary to contraction of the diaphragm as well as elevation of ribs, as occurs in mammals and some reptiles. *The glottis is firmly closed except when air is forced through it.* Thus there is no danger that water or food will enter the lungs.

In terrestrial, air breathing animals, the larynx undergoes differentiation in direct ratio with complexity of evolutionary development.

We thus see the development of cartilaginous structures in the larynx capable of keeping the vocal cords in a state of abduction, permitting continuous respiration, shuting off the lungs only in cases of emergency, or sound production, when the vocal cords are called upon to vibrate in a state of adduction.

In man the larynx has undergone great refinement. Economy of space, it would seem, is the chief reason for such refinement. The larynx is pushed down to a lower level and has to make room for other important structures within the neck. In the course of evolution, man having acquired the upright position, the larynx has become the uppermost aperture of the pulmonary apparatus.

The nasal accessory sinuses, lined with a mucosa, take on the position of superimposed cavities.

In the lower animal olfaction is highly developed. Its very life is dependent on its sense of smell. A large area of olfactory mucosa is needed, altogether too large for the restricted nasal area. Hence the scheme of space economy. A system of coiled bones, known as turbinates, are covered with such a mucosa and invaginated within the neighboring facial bones. In man olfaction is not a vital issue. His sense of smell is a regressive mechanism, in a state of evolutionary atrophy.

*Presented at the Kanawha Medical Society, October 13, 1936, Charleston, West Virginia.

He has only a mere three pair of small, insignificant turbinates, which are conveniently lodged within the nasal chambers proper.

It would seem that the nasal accessory sinuses are nothing more than inherited warehouses, empty warehouses, in many instances a nuisance, surely a nuisance in this valley of ours.

While on the subject of evolution I wish to call your attention to another striking phase, a phase that has a direct bearing on our discussion. Man in climbing to his high position in the animal kingdom has developed his nervous system most and skeletal framework least. A reflex mechanism ever ready to guard the laryngeal aperture from the entrance of foreign bodies is both highly intricate and extremely sensitive — it better be! The vertical position of man exposes his lungs to greater danger. The bony openings of the nasal accessory sinuses, on the other hand, have not changed their respective positions, with the result that the maxillary sinus has the poorest drainage, since the natural opening is near the orbit. Low in the horizontal position of the lower animal, high in the upright position of man. In other words, in upper respiratory infection with nasal accessory sinus involvement, as the case often is, the antrum is the most vulnerable. It has the greatest difficulty in clearing itself of its contents, especially if the pus is of the thicker variety and the nose has some obstruction. Repeated such infections now and then lead to chronicity in its various forms. Now, if I add two more, histologic characteristics of the nasal mucosa, also a remark or two on reflexes, I shall be ready to enter the subject proper, clinical as well as experimental data, diagnosis, treatment and prognosis not to be excluded.

The turbinates are largely made up of large thin-walled blood channels and have the characteristic of erectile tissues. The second histologic characteristic of the nasal mucosa is a very loose connective tissue framework under the basement membrane, especially is this true of the ethmoidal labyrinth, also the sphenoid sinus. In brief, the nasal mucosa is subject to swellings, swellings often out of proportion to the underlying cause, be it infection, a sudden change in temperature, atmospheric pressure, humidity, or some allergic irritant. The nasal mucosa is continuous with that of the adjacent sinuses, the natural openings of which are lined with the very same lining. During an edematous condition of the nasal mucosa both drainage and aeriation of the sinuses are often reduced to a minimum, especially in a narrow or obstructed nose. With these facts in mind the pathogenesis of sinusitis is more readily understood.

As to reflexes in connection with our subject—the sneeze, the scraping of the throat, the cough, are nothing more or less than coordinated efforts to reject secretions or foreign substances from places they are not wanted. In man such reflexes are both very essential and highly developed. They make up a defensive mechanism. The upright position calls for greater protection to the more vulnerable pulmonary apparatus. Reflexes in general, those guarding the lung entrance included, are greatly subdued at night and are at a minimum during sleep between 11 p. m. and 4 a. m.

It was during the World War that the subject of the relationship of nasal accessory sinus infection to certain chest disturbances was first called attention to by the French. Rist and Sergent observed that many soldiers with chronic bronchitis had sinus infection, that by clearing up the overlying infection, the percentage of a spontaneous cure of the underlying bronchitis was very high. They compared the respiratory tract to the genitourinary tract: cystitis leading to renal infection. Several years later a number of observers in this country began to recognize the importance of the association of non-tuberculous chest lesions and sinus infection. Thus Webb and Gilbert in a number of cases found the same type pneumococcus in both sputum and antra. Furthermore, the majority of such patients complained of no subjective

symptoms of sinusitis, only a few had a nasal or postnasal discharge.

About the same time Mullin observed that a great many children with a cough and moist râles at the bases of the lungs would get well after early diagnosis and treatment of sinusitis. The percentage of such cures was high.

He traced the chest complaint to the above located sinus infection, leading to enlargement of bronchial, peribronchial and mediastinal glands. These glands produce an irritation and cough, which, if prolonged, interferes with bronchial peristalsis with the immediate result of retention of secretions and the ultimate result of dilatation of the bronchi. About the same time he reports a number of interesting animal experiments in which a series of rabbits was employed. When India ink was placed in the animal's nose and the animal later killed, massive deposits of carbon were found in the lungs. On the other hand, the stomach filled with vegetable material was discolored only at the esophageal opening. This series of experiments gave convincing evidence that the foreign matter reached the lungs via inhalation. On the other hand, in another series of similar experiments, when the India ink was placed within the nasal accessory sinuses and the natural openings were sealed off, carbon later was found mostly within the lymphatics. The deep cervical chain of lymphatics was involved, also the bronchial nodes. The microscopic sections of the lungs in the India ink experiments showed that the alveoli here and there were packed with carbon, both free and within large mononuclear (alveolar) cells. The behavior of these cells emphasizes their close relationship to the fixed endothelial cells and the large mononuclear leucocyte. They seem readily to engulf particles which arrive on their surface and to proliferate under such a stimulus, become detached and either be cast off in the expectoration or taken up and carried along the course of lymphatic absorption.

The cells of the upper respiratory mucosa do not appear to be phagocytic but rather to throw off foreign particles by means of their secretion.

The inference is that there are two chief routes of sinus infected material reaching the lungs. The inhalation route is the path of infection par excellence, when the infected sinuses drain into the nose. The lymphatic route—when there is little or no escape of pus into the nose.

In 1923 McIntire of the U. S. Navy reported 37 cases of pulmonary non-tuberculous disease associated with sinusitis. In the same year Dunham and Skavlem, also of the U. S. Navy, report 25 cases of bronchiectasis associated with sinusitis. In 1924 Dennis reports 52 cases of bronchiectasis or asthma, 47 of these with maxillary sinusitis. Only 13 had macroscopic pus, hyperplastic changes of the mucosa in the others.

In 1927 Kistner reports 196 cases of chronic non-tuberculous bronchitis, age ranging from four to 71. Only in six of all these cases sinusitis was not demonstrated.

Quinn and Meyer in 1929 performed a series of clinical experiments to show that aspiration of pus takes place during sleep, especially between the hours of 11 p. m. and 4 a. m. When sleep is the deepest and reflexes guarding the pulmonary entrance are at a minimum. Small amounts of iodized oil were placed in the patient's nostrils and their chests x-rayed the following morning. Invariably the lipiodol was seen in both lower lobe bronchi.

Thus far over 90 per cent of all cases reported by various observers had maxillary sinusitis, some, of course, also had involvement of the other nasal accessory sinuses. In early cases of bronchitis, when the infected sinuses have been properly taken care of, the percentage of cures has been high. In some cases of advanced bronchitis and bronchiectasis in addition to sinus care, postural or bronchoscopic drainage, also autogenous vaccine had to be added.

Protracted floating of infectious material from a polypoid maxillary sinus mucosa in the lymph channels tends to produce a chronic

peribronchitis. X-ray films of children often shows this condition. Protracted, chronic bronchitis leads to bronchiectasis. Bronchiectasis is permanent. The most typical cases of bronchiectasis have been traced to childhood with sinusitis, followed by bronchitis.

As to the treatment of these conditions no routine can be laid down. Each case requires individual study both as to the degree of chronicity of the sinus mucosa and the degree of damage to the tracheobronchial tree. The age of the patient is important. On the whole the younger the individual is, the less chronicity, the less permanent organic change, and consequently, the better the prognosis. A fact to be borne in mind is that children, even infants, are subject to sinusitis as well as adults.

The reason that these young patients respond much more readily to sinus care is obvious: As yet they have not lived long enough for extreme chronicity. Radical sinus surgery when not indicated is mutilating. On the other hand, when indicated it is most gratifying. Fortunately the percentage of sinusitis that calls for radical surgery is not high. Conservative surgery or care is the much more common therapeutic procedure, especially in the younger folks. When there is a polypoid degeneration of the sinus mucosa there is no mode of treatment that will bring such a mucosa back to normal or near normal. The proper thing to do is to remove it intact and provide for a new mucosa to grow in its place. The new mucosa will not be of the ciliated variety with the proper gland content, but will be a good lining for practical purposes. By way of comparison I may say that artificial teeth are not as good as natural ones but a great deal better than abscessed teeth, causing sepsis.

In sinus surgery, like in the extraction of teeth, no radical surgery is justified unless there is a definite indication. When more than one sinus is chronically involved, both a careful clinical study plus that of x-ray films, after the suspected sinuses have been injected with an opaque oil, in practically all cases enables the rhinologist to measure the amount of surgery required in a given case. In many cases it is found that one sinus has more pathology than the others involved. I prefer to designate such a sinus the primary sinus and the others secondary. It is the primary sinus that calls for more surgery than the secondary. Thus both radical and conservative surgery is often combined in one and the same case. In a house where the first floor suffers from leakage of faulty plumbing of the second floor, it is obvious that instead of mopping and drying the first floor the more rational treatment of the condition is to stop the leakage on the *second floor*. The situation and the treatment of chest pathology secondary to nasal accessory sinus infection is similar.

Attention on the sinuses is to be focused first. When the chest pathology is not advanced, it will take care of itself. In cases of advanced bronchitis with permanent damage to the bronchial tubes, autogenous vaccine is often a definite aid. So are proper climatic conditions and a change to such, wherever economics permit, should be encouraged. In bronchiectasis we have a permanently damaged, dilated bronchial tree, a septic tank. In such advanced cases the patient cannot be promised too much, even after proper care of the chronic sinusitis. Autogenous vaccine combined with postural or bronchoscopic drainage are aids worth while. On the whole, with proper sinus care and chest drainage, even advanced cases of bronchiectasis may be helped considerably.

When the mucosa is moderately involved, the establishment of both good drainage and proper ventilation of the involved sinuses is the usual procedure, in most cases with gratifying results.

If the nose has some anatomic obstruction, such a nose should be corrected without a turbinectomy. Turbinates have a definite function of supplying both the proper amount of moisture to the mucosa of the upper respiratory tract as well as regulating the temperature of the inhaled air and should not be amputated. Careful submucous resection,

preserving the proper contour of the nose is the operation of choice in nasal obstruction.

In prophylaxis of sinusitis there may be more "don'ts" than "do's." Do not try to check an acute rhinitis. The running secretions are elements of a defensive mechanism —leucocytes and antibodies trying to dispose of invaded bacteria. So-called "rhinitis tablets" do more harm than good and should be discouraged. Atropine checks secretion, which in case of rhinitis is a part of the defensive mechanism attempting to check bacterial invasion. Incidentally, thin secretions dilute the thicker, well-formed pus content and thus facilitates its escape through the natural openings of the infected sinuses. If anything acute rhinitis should be augmented by moist heat and other means.

Do not wash a nose full of infection. The repeated irrigation with a normal saline solution at body temperature of an *individual sac or bony chamber lined with an infected mucosa is ideal treatment.* An infected conjunctivial sac or a given nasal accessory sinus infected, indeed, responds to such treatment most graciously. Such is not the case in the irrigation of noses. The nose both drains and ventilates a number of adjacent sinuses, the middle ears included. *In irrigating a nose there is an excellent chance to contaminate an innocent sinus or the middle ears.*

Do not keep the patient in an overheated room with lack of humidity. The nasal mucosa requires proper air conditioning. No doubt that in the near future both architects and physicists are going to be called upon in prevention of the common cold, which in most cases starts with a disturbance in the mucosa of the upper respiratory tract, especially that of the nose. The nasal mucosa swells way out of proportion to the underlying cause—sudden changes in temperature and lack of humidity are frequent causes.

Another "don't" to be employed in giving instruction to a patient with an acute sinusitis is "do not navigate, but go to bed and stay there until the infection is well walled off." Physiologic rest of the body plus the ample intake of fluids plus proper elimination plus augmented rhinitis will by far do more in the case of an acute infection than premature local bombardment. A "don't" may be safely applied to suction in the care of acute rhinitis or acute sinusitis, especially when an antrum is the seat of involvement. When a sinus is acutely infected the mucosa adjacent to it is also implicated, edematous, likewise is the mucosa lining the natural openings of such a sinus. Suction produces a vacuum in the nose proper and, if anything, increases the edema of the already edematous mucosa, thus aggravating the condition.

Fast transportation also will help some of us. While we cannot change climatic conditions, by means of airships in a few hours we can transport ourselves to more suitable climatic surroundings. In the home by means of proper engineering we can regulate ventilation as well as humidity.

Summary: 1. An explanation of the relationship of nasal accessory sinus infection to non-tuberculous chest involvement on the basis of evolutionary development is endeavored.

2. Both clinical work and research in this field by rhinolaryngologists since the World War is given.

3. The treatment of patients with chest pathology, secondary to sinusitis is outlined.

My relatively brief presentation, has not by any means exhausted the subject of the relationship of nasal accessory sinus infection to non-tuberculous chest lesions, if anything, it has only scratched its surface. However, if I have succeeded in stimulating further discussions on this important phase of medicine, especially in this valley of ours, which is so notorious for sinus infection, I feel that my talk was justified.

BIBLIOGRAPHY

1. Kerr, G.: *"Zoology for Medical Students."*
2. Negus, E. V.: *"The Mechanism of the Larynx."*
3. Schaeffer, J. P.: *"The Nose,, Paranasal Sinuses, Nasolachrimal Passageways and Olfactory Organs in Man."*
4. Rist, E.: *Les principles du diagnostic rationnel de la tuberculose pulmonaire,* Presse med. 24:305 (July) 1916; *Les diagnostic differentiel la tuberculose pulmonaire et les affections chroniques des fosses nasales,* ibid. 24: 321 (July) 1916."
5. Sergent, Emile: *"Histoire suggestive de quelques*

faux tuberculeux diagnostic differentiel de le tuberculose pulmonaire et des affections des voies respiratoires superieures, Bull. et Mem. Soc. med. d. hop. de Paris 40:1424 (July 28) 1916; *Considerations sur la statistique du centre de triage; la charite le vesinet, de juin* 1916 *a decembre* 1917, J. de med. chir. prat. 89: 643, 1918."

6. Webb, G. B., and Gilbert, G. B.: "*Bronchiectasis and Bronchitis Associated with Accessory Sinus Disease*, J. A. M. A. 76:714 (March 12) 1921."

7. Mullin, H. V.: "*The Accessory Sinuses as an Etiologic Factor in Bronchiectasis*, Ann. Otol. Rhin. & Laryng. 30:683, 1921." "*Studies on the Lymph Drainage of the Accessory Nasal Sinuses*, Laryngoscope 31:158 (March) 1921."

8. McIntire, R. T.: "*Pulmonary Symptoms Incident to Infection of the Accessory Sinuses of the Nose*, U. S. Nav. M. Bull. 13:688, 1923."

9. Dunham, Kennon, and Skavlem, J. H.: "*Sinus Diseases and Lung Infections*, J. Radiol. 4:37 (Feb.) 1923."

10. Dennis, F. L.: "*Accessory Nasal Sinus Infection with Complications; An Analysis of Cases Associated with Asthma and Non-Tuberculous Chest Lesions*, Ann. Otol. Rhin. & Laryng. 33:451 (June) 1924."

11. Kistner, F. B.: "*Infections of Accessory Nasal Sinuses as the Cause of Chronic Non-Tuberculous Bronchitis*, Northwest. Med. 26:203, April, 1927."

12. Quinn and Myer: "*The Relationship of Sinusitis and Bronchiectasis*, Arch. of Otolaryngology, Aug. 1929."

COLLAPSE THERAPY IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

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I WISH to express my appreciation to Dr. Gwynn and the members of the Raleigh County Medical Society for the privilege of being with you tonight. I am especially glad to have this opportunity to visit Pinecrest and to observe personally the splendid work that is being done here.

When informed that Dr. Drash would be on this program, it seemed to me fitting that I discuss collapse therapy from the viewpoint of the phthisiotherapist since probably no surgical procedure requires teamwork between the surgeon and the internist to a greater extent than thoracoplastic collapse of the chest. Just as the ultimate results attained by a tuberculosis sanatorium depend upon the skill of its consulting surgeon, so does the success of the surgeon depend upon the skill of the phthisiotherapist who selects the cases for operation.

Recent medical literature has so thoroughly covered the historical background of collapse therapy that a repetition here is not justified. I trust, however, that you may indulge an "old timer" a few reminiscences relative to the growth of this valuable therapeutic procedure insofar as it has touched upon his own personal experiences during his twenty-five years in sanatorium work.

As a medical student in 1908 it was my privilege to attend the International Tuberculosis Congress which convened that year in Washington, D. C. As I remember, Dr. E. L. Trudeau presided and papers were read by Koch, Calmette and others internationally famed. Though Murphy and Forlanini had conceived the idea of pneumothorax several years prior to this time, I can recall no mention of it at this meeting, though I must confess a greater interest in the Smithsonian Institute than in the program of that historical congress.

Let me try for the moment to recapture for you the conditions in 1910 when my personal experiences with tuberculosis began. The National Tuberculosis Association, though only six years old, had succeeded in awakening a wide public interest in tuberculosis. The value of roentgen ray diagnosis of lung disease was a moot question and almost all chronic pulmonary lesions as well as many unexplained toxemias were diagnosed tuberculosis. Saranac Lake and Asheville were well known but there were few state sanatoria. Catawba, one of the first in the south, enjoyed a capacity of thirty beds. Buildings were of the crude lean-to type and the equipment consisted of a stethoscope and a little used microscope. The phthisiotherapist resented the modest claims of a few

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prominent roentgenologists such as Dunham, Cole and Gray. It was estimated that in Virginia 5,000 deaths occurred annually from pulmonary tuberculosis.

Treatment consisted of modified rest, fresh air and forced food, and this naturally was only too often inadequate. In retrospect, one must conclude that our optimism was kept alive largely by the fact that a large percentage of our cures at that time was erroneously diagnosed as having tuberculosis. As a matter of fact, it is only during the last few years that we have, chiefly through the perfection of roentgen ray diagnosis, been able to recognize many non-tuberculous pulmonary lesions, especially those secondary to foci of infection in the upper respiratory tract.

In 1911 my attention was called to Floyd and Robertson's paper on artificial pneumothorax, which impressed me as a difficult and radical procedure. In 1913 Dr. Mary Lapham wrote several articles on thoracoplastic collapse, probably based upon the work being done by Sauerbruch in Germany, as this antidated Dr. Edward Archibald's pioneer work in America. By 1913 artificial pneumothorax had been fairly generally adopted by all sanatoria. Seemingly miraculous results were attained in cases where no pleural adhesions were encountered. We rigidly adhered to a long list of indications and contraindications, thereby limiting greatly the number suitable for collapse. Of the ten per cent selected for collapse, a distressingly large number were either unsuccessful or only partially so because of adhesions. We tried a few open pneumolyses, but the operation proved too formidable and was soon supplanted by the Jacobæus operation or closed pneumolysis. Drs. Drash and Nicholls have recently reported a series of successful results with this method. In the hands of a skilled operator it is relatively simple and devoid of danger.

The phthisiotherapist, though grateful for pneumothorax, was helpless in the face of extensive adhesions. You may well imagine his gratitude when Dr. Edward Archibald of Montreal reported his results with the Sauerbruch thoracoplasty. In October, 1915, we did our first thoracoplastic collapse, removing the ribs from sternum to spine in seven stages, under local anesthesia. This patient, though fifty years old and apparently hopelessly ill, lived an active normal life for twenty-one years and died at the age of seventy-one, but not of tuberculosis.

We collapsed three cases surgically and considered the results satisfactory, but the apparent brutality of the operation cooled our enthusiasm and for two or three years we offered an occasional patient the advantage of thoracoplasty, but none accepted. In 1922 at the National Tuberculosis Association meeting we heard papers describing posterior thoracoplasty. Since that time we have urged surgical collapse when indicated. There has been such phenomenal improvement in the surgical technique that today patients approach either partial or complete thoracoplasty with no more dread than was formerly manifested when told they should take "gas."

Our experience with phrenicectomy began in the fall of 1927. In certain well selected cases it has proven to be of definite value; however, I am glad to see the phthisiotherapist and surgeon adopting a more conservative attitude towards the indications for its use. It is being largely supplanted by temporary phrenic paralysis which is growing in popularity.

Twenty years ago a well-staffed institution advised collapse in approximately ten per cent of its patients. That same sanatorium today probably institutes some form of collapse therapy in seventy-five per cent. During the last few years the indications for collapse have broadened rapidly and it is my firm conviction that the future will add further to its applicability and usefulness.

The late economic depression has made long drawn out sanatorium residences in many cases well nigh impossible. We have been surprised and gratified to find that early and even more advanced cases receiving artificial pneumothorax return to work safely after only three months in the sanatorium. A num-

ber of such cases are apparently doing well, thus encouraging us to continue in the effort to shorten the period of disability which has always been such a demoralizing factor in the mental approach to the "cure."

The closing of cavities and negative sputum has assumed increasingly important significance in our modern treatment of tuberculosis. While many cavities heal spontaneously with bed rest, collapse therapy is often more conservative in that bronchogenic spreads are rendered less likely of occurrence.

Bilateral artificial pneumohtorax is a simple, safe, and much neglected procedure. It is amazing to see a patient with sixty per cent collapse of both lungs on exercise with no apparent dyspnea. We try bilateral collapse in every case of far advanced bilateral involvement, even though the patient may seem to offer a hopeless prognosis. Naturally we have many failures, but there are sufficient successes to justify reasonable optimism in almost every case.

There are combinations of complete thoracoplasty on one side and artificial pneumothorax on the other; bilateral apical thoracoplasty, or apical on one side and basal thoracoplastic collapse on the opposite side. In fact, there seems to be almost no limit to the resourcefulness of the skilled chest surgeon in meeting the many problems constantly evolving in our modern concepts of collapse therapy in the treatment of pulmonary tuberculosis.

Based upon twenty-five years' practical experience, I would like, in conclusion, to emphasize a few personal convictions, some of which may not be exactly germaine to the subject under discussion.

(1) Though surgical pulmonary collapse has deservedly attained a high place in the treatment of pulmonary tuberculosis, we must bear in mind that it is only an aid and should always be followed by the well established treatment, preferably in a sanatorium.

(2) The indications for some form of collapse are constantly broadening. It should be given a trial in almost every case which fails to respond to bed rest.

(3) Pneumothorax is the treatment of choice. Its usefulness has been greatly increased by closed pneumolysis.

(4) Phrenicectomy is a valuable adjunct to our armamentarium in properly selected cases, but a word of caution against its promiscuous use is justified. Temporary phrenic paralysis is preferable in most cases.

(5) Surgical collapse or thoracoplasty is, next to pneumothorax, the greatest boon to the tuberculosis sufferer. This is a highly specialized field and should be undertaken only by those having had sufficient training in this particular work. The chest surgeon should always affiliate himself with an experienced phthisiotherapist in the selection of cases as well as in the postoperative care of the patient.

(6) Collapse therapy shortens the period of disability. Many patients can be returned to work relatively safely in three months and in some instances one month's rest will suffice. This needs no further discussion to prove its economic value to family and state.

(7) Patients can be returned more promptly to their family physician. I would like to suggest that each state sanatorium give pneumothorax clinics in which a physician from every community may be trained to give refills. Sanatoria at present have to consider the problem of refills after the patient is discharged and thus many patients from isolated districts are denied its advantages.

(8) It should be the ideal of the state to furnish a sanatorium bed for every active case of tuberculosis. The financial burden thus imposed could be immeasurably lightened by shortening the period of sanatorium residence by some form of collapse therapy. A further saving could be accomplished by rigid exclusion of all non-tuberculous cases and by permitting those financially able to do so to pay the cost of treatment. Physicians themselves by their attitude toward tuberculosis and nervous and mental care are largely responsible for the present public and official trend toward state medicine.

The present tendency toward home treatment with collapse is the natural sequence of the financial depression. It is neither good economy nor to the interest of public health to send open cases of tuberculosis back into the home if it is possible to isolate them in a sanatorium. The open case should be shown preference over the closed cases in sanatorium admissions.

(9) No other treatment has as yet approached the good results obtained by well regulated sanatoria. A short period of sanatorium training at the beginning of treatment is vital for the patient's welfare. It is no less vital as a public health measure in that sanatorium training lessens the number of contact infections.

(10) Case reports with x-rays.

THE POSTBRONCHOSCOPIC TREATMENT OF VEGETAL FOREIGN BODIES IN THE TRACHEOBRONCHIAL TREE WITH PARTICULAR REFERENCE TO THE USE OF THE OXYGEN TENT*

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THIS subject has occurred to us as one of particular interest and one of special need as, in the search for information on therapy for this condition, we have found missing some very necessary instructions. Some of these we have developed and adapted with, at least in one instance, the result we feel, of having saved a life.

Just what are the complications following a vegetal foreign body episode in the tracheobronchial tree? Clerf,[5] in addition to presenting a detailed report of 100 consecutive personal cases of foreign bodies in the air and food passages, cites Aucoin[12] who gave the results of a statistical review of 1,000 successive foreign bodies removed at the Chevalier Jackson Bronchoscopic Clinic. "Of the bronchial foreign bodies, 65 per cent were in the right bronchus, and 35 per cent, in the left. Foreign bodies of vegetal origin constituted 23 per cent of the total number." Statistics further show that about 25 per cent of the foreign bodies occurred in adults and 75 per cent in children. Further analysis of the age ratio indicated, that of safety pins and vegetal foreign bodies, which constituted 38 per cent of the total number of cases, and which are the most difficult type of foreign body to remove. Sixty-nine per cent were encountered in children under two years of age. Of Clerf's 100 cases,[5] 43 occurred in children less than two years of age.

Clerf[7] further cites a group of 340 consecutive cases of foreign bodies inspirated into the air passages, and these are reviewed from the standpoint of fatalities, preoperative and postoperative complications, intercurrent infections and sequelæ, "Although no attempt is made to consider each class of foreign bodies separately and in detail, certain groups must be discussed.

"*Vegetal Foreign Bodies:* When considering this group I was of the opinion that peanuts were the most serious of foreign bodies from the standpoint of development of complications. This has not been borne out by my studies. Of a total of 191 foreign bodies consisting of nuts, seeds and shells, 98 were peanuts. Of these, 73 were found in patients under five years of age. The age of the youngest was ten months. The length of sojourn varied from several hours to five and one-half months. In sixteen cases the foreign

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body was present from one to five and a half months. In two cases, a second bronchoscopy was performed one week following the initial foreign body removal and an additional fragment of nut removed. In two other cases, repeated bronchoscopic aspirations were necessary for the treatment of pulmonary suppuration. Although it was necessary to perform tracheotomy in twelve cases there was but one fatality following bronchoscopic removal of the foreign body."

Fortunately, many of these cases will have no difficulty whatever. Some will develop a laryngeal edema, a few will develop an extensive tracheobronchial edema, others a massive atelectasis and another group which we have interpreted, we believe do not fall into either of these classifications, namely bronchiolar suffocation. A still later group is represented by the chronic lung abscess. In reviewing our own cases we find that all the complications have occurred in children under nine years of age.

In determining a method of treatment for these conditions there seems to be four fairly well established methods of management: Croup tent, simple bed rest, tracheotomy and oxygen therapy. As to oxygen therapy, as related to our discussion, we find but very little mention in literature of the use of the oxygen tent and only some in this specific connection. In reviewing the literature, it is noted that tracheotomy is practically never necessary in children over seven or eight years of age. In our series, the oldest child was four years. The complications of this condition seemed to be limited largely to tracheobronchial and pulmonary conditions and extrathoracic conditions such as subcutaneous emphysema. Practically all these complications are limited to children under eight years of age.

Jackson[2] concludes: "For the production of abnormal physical signs one or more of four conditions must be present: (a) narrowing or enlargement of the lumen; (b) swollen mucosa; (c) projecting abnormal tissue; (d) foreign body or secretions acting as such (endogenous foreign body). Check valves may be formed by inspiratory enlargement and expiratory diminution of the lumen of infiltrated or inflammatory bronchial walls as well as by mobile tissues or secretions that form ball-valve or flapping-valve mechanisms."

Brunn and Brill[3] agree "that massive collapse and various other types of atelectasis are but different stages of the same condition and that it is the most common postoperative pulmonary complication. Clinical and experimental evidence seemed to favor the theory of bronchial obstruction as the most common single factor in the production of atelectasis. Bronchoscopically, four types of observations were noted: (1) the presence of an obstructing plug or characteristic tenacious sputum, (2) profuse purulent secretion, (3) no secretions in the bronchi and (4) one unusual case of bronchial edema."

Brown[4] observed the effect of the inhalation of carbon dioxide through the bronchoscope and noted that there was an increase in the rate and depth of respiration; this increase in the movements of the bronchial walls tended to free adherent mucous. When a moderate concentration of the gas was administered, there was induced a distinct blanching of the mucous membrane of the trachea and bronchi.

Looper[13] has found the inhalation of concentrated CO^2 gas immediately following the removal of foreign bodies, particularly of vegetal character, produces a paroxysm of cough which he feels is desirable in that this coughing may eject small residual fragments following the removal of the main foreign body. This certainly sounds rational.

[5]"The view held by many bronchoscopists concerning the mechanical obstruction produced by foreign bodies in the air passages, namely, obstructive emphysema and obstructive atelectasis, are not generally shared. In the estimation of certain observers, the obstruction that is responsible for the phenomena of emphysema and atelectasis is produced by spasm of the bronchial musculature, prob-

ably being induced by the presence of the foreign body."

In an experimental study, Heatly and Clausen[6] were able "to produce typical arachidic bronchitis in the rabbit. They demonstrated that arachidic bronchitis was due to irritation, whereas infection played only a secondary rôle. The fat-free residue of peanuts containing unaltered proteins and carbohydrates produced no reaction. The irritant found is an acid present in both the oleic and the linoleic fraction and is absent in the solid fraction of the fatty acids. Peanut oil containing free fatty acids is irritating, whereas peanut oil deprived of fatty acids is non-irritating. The concentration of free acids that confers irritating properties on peanut oil may be extremely small, e.g., 0.3 per cent."

In a case reported by Hart and Peeler[7] there was a history of foreign body. "The wheezing and asthmatic type of breathing were highly suggestive. A roentgen study gave negative results for foreign body. In spite of these observations, the authors believed that a diagnostic bronchoscopy was indicated. The larynx and trachea were found to be normal. Both main bronchi were filled with a quantity of fat-like material; the mucous membrane was edematous. No foreign body was found. In twelve hours respirations became more difficult, there was cyanosis and the dyspnea was expiratory. A tracheotomy was performed to aid in the aspiration of secretion. The secretions removed from the bronchi were found to contain diphtheria bacilli. Later events proved that there was a complete cast of membrane in the right bronchus, which produced complete obstruction; a partial cast was found in the left bronchus. The rare occurrence of diphtheria limited to the bronchi, and the history of foreign body, were in part responsible for the delay in diagnosis and also emphasized the importance of prompt bronchoscopy in obscure cases of this type and bacteriologic study of bronchoscopically removed secretions."

We have had a somewhat similar but more fortunate experience. (Vide infra case M. K.)

Being unable to secure atelectasis of the lung in a series of ten dogs after introducing various forms of plugs in the customary manner to produce complete bronchial obstruction, Van Allen and Lindskog[8] found "that resistance to the expired air was necessary before collapse occurred. This is essentially similar to the effect produced by coughing, moaning or grunting, and they referred to it as straining expiration the equivalent of Jackson's 'tussive squeeze'. Continuing their investigations they found that atelectasis failed to occur when only a few of the bronchi of a lobe were plugged, whereas collapse was invariably noted when the plug involved one or more lobes. This was attributed to the rather free communication that exists between the component units of a lobe of a lung.

"Pulmonary disease may cause bronchial obstruction comparable in mechanism, physical signs and roentgen manifestations to the obstruction produced by aspirated foreign body.

"When obstructive pulmonary atelectasis occurs, it means that complete occlusion of the bronchus tributary to the atelectatic area has occurred.

"Obstructive pulmonary atelectasis is an indication for diagnostic bronchoscopy and in many cases an indication for bronchoscopic intervention for treatment, as well."

Just what is the pathology involved? We believe that there are five primary possibilities: 1. Primary tracheolaryngitis as is seen following simple bronchoscopy where the instrument is too large. 2. Vegetal (irritative) laryngitis. 3. Irritative (non-traumatic) tracheobronchitis. 4. Capillary suffocation from occlusion of the terminal bronchi. 5. The late lung abscess single or multiloculated.

Many questions come up in the use of oxygen therapy as to just how its good results are accomplished. We believe that it improves certain physical factors; that is, it concentrates the oxygen, making a smaller

bronchial and laryngeal caliber necessary for proper oxygenation. It is possible that these factors alone reduce edema of the tracheobronchial tree.

Norris[9] offers the following suggestion in the use of the oxygen tent: "While the nasal catheter and face mask have both been used to raise the oxygen content of inspired air, it is now generally conceded that especially constructed chambers or tents with a circulating air system produced by motor driven blowers, and to which oxygen is added, are more satisfactory. By passing this air through an ice chamber the temperature under the hood or in the special room may be lowered from five to thirty degrees below room temperature.

We are interested in two things: Increasing the oxygen percentage in the air the patient breathes, and keeping the CO^2 below two per cent. Under ordinary conditions in hospitals were the hood of the oxygen tent is not tucked in too tightly, the CO^2 escapes as well as the oxygen. When the hood is not tightly tucked in and only six liters of oxygen is added per minute, the oxygen content is seldom much higher than 25 per cent; in other words, it is not enough to be of value, but, when eight liters are added per minute, the O^2 content is between 35 and 40 per cent so that it is cheaper and just as satisfactory to run the oxygen at eight or nine liters a minute with the hood not too tightly tucked in as it would be to tightly tuck it and use soda lime, which is expensive, to remove the CO^2.

An analyzer for testing samples of air in the tent will of course definitely settle the question of the oxygen and CO^2 percentage.

Oxygen therapy is of value mainly in those conditions when there is a diminished amount of oxygen in the blood, the clinical evidence of which is cyanosis. Greater success with oxygen is seen in the so-called anoxic anoxemias, generally encountered in respiratory conditions such as pneumonia, where there is an inadequate aeration of the alveoli of the lungs due to congestion.

In the pneumonias it is the general consensus of opinion that many cases die from exhaustion rather than from toxins absorbed or developed by the disease. In at atmosphere containing nearly twice the oxygen percentage of air, the hemoglobin is enabled to pick up more oxygen as is evidenced by the clearing up of cyanosis, and as a result of which, the respiratory rate is lowered and the amplitude of respirations is decreased. The load on the heart muscle is lessened when the breathing is quieted as is evidenced by the lowered pulse rate.

It is the opinion of those who have had experience with oxygen therapy, that much better results may be obtained by its early use since its rôle is to prevent exhaustion by relieving the anoxemias."

Just what does the oxygen accomplish? In directing the attention of the medical profession to the advantages of introducing oxygen directly into the trachea, Guerinot[10] reported his experiences in the treatment of a case of carbon monoxide gas poisoning occurring in an infant, age four days. "The child was unconscious. Guerinot introduced a four mm. bronchoscope into the trachea and piped oxygen directly into the lungs for 25 minutes. The child made an uneventful recovery without complications."

Barach[11] has made some excellent studies on the use of helium and oxygen. "*Obstructive Lesions in the Trachea and Larynx:* Two patients with carcinoma of the larynx, had previously been subjected to tracheotomy. When the tube was closed, a test was made of the effect of inhalation of a helium-oxygen mixture as contrasted to air. Relief was experienced in both cases, in one almost complete. A third patient, with esophageal carcinoma, was given helium-oxygen inhalations with marked relief of dyspnea and stridor, until an acute exacerbation of symptoms took place, necessitating tracheotomy. Measurement of the 'pulmonary' pressure in one case of laryngeal carcinoma, showed the same type of decreased pressure when the helium-oxygen mixture was breathed instead of air.

"The first case to be reported in detail is that of laryngeal edema in an infant:

"Boy, age four months, had had a head cold with a cough for six weeks, when suddenly his breathing became difficult. His subsequent history revealed that he swallowed 'something green' at 9 a. m. On examination late that afternoon, he was seen to be a fairly well developed boy for four months. His respirations were accompanied by a sound which seemed to be produced near the larynx. Lungs were negative, except for occasional wheezing sounds. Roentgen ray showed a speck in the infraglottic region. Laryngoscopy was done, followed by esophagoscopy with removal of a green tack from the esophagus. On the following evening, he became markedly dyspneic, with retraction of neck muscles, and cyanosis. Helium was then added to a concentration of 80 per cent; oxygen concentration 20 per cent. The boy became obviously more comfortable within a few minutes, with relief of dyspnea, but with perceptible cyanosis. Oxygen was then increased to 30 per cent, helium 70 per cent. Color was then pink and dyspnea absent. He was given codeine. At 6 a. m. the following morning he was fed and changed outside the tent. Marked difficulty in breathing and restlessness returned. After about six to eight coughing spells, between each one of which he had a free interval, a tracheotomy was done. Patient was then comfortable for a time when sereve dyspnea again developed. During the following five days, he had to be repeatedly bronchoscoped or aspirated to remove mucous plugging the bronchi. He developed bronchopneumonia during this period and died six days after tracheotomy. At autopsy, a diffuse bronchopneumonia was found, but neither laryngeal obstruction nor edema.

"In this case, the continuous inhalation of 70 per cent helium and 30 percent oxygen relieved the obstructive dyspnea and cleared the cyanosis, whereas 90 per cent oxygen removed the cyanotic color but did not give any relief to the urgent obstructive dyspnea. In this kind of lesion, residence in a helium-oxygen tent until the acute process in the larynx subsides would appear to be a rational procedure. In any instance, where a resolution of the obstruction may be expected, inhalation of helium-oxygen mixtures might tide the patient over the period of obstruction.

"The onset of air hunger in patients with asthma and obstructive lesions in the larynx, is therefore, in part a reaction to an interference with the normal rate of filling and emptying of the lungs. The sensation of the volume of air delivered to the lungs per breath is presumably interpreted through the Hering-Breuer reflex arc, which is operative in stimulating and terminating normal inspiration. The existence of an equilibrium designed to maintain an entrance into the lungs of an accustomed volume of air, at an accustomed velocity, is of considerable importance to recognize, for it appears to be responsible, to a large extent, for the strenuous efforts which the patient with asthma exerts in the attempt to maintain it. That a purely physical sensation of an adequate inlet of air into the lungs, separate from other chemical equilibria, is an essential factor in obstructive dyspnea, is additionally confirmed by the exhaustion which the asthma patient develops by carrying on a pulmonary ventilation three to four times the normal for him, and by his response to the inhalation of a lighter gas of the oxygen concentration.

"In the infant with obstruction in the trachea, the respiratory rate in air was 40 per minute and the clinical signs of respiratory obstruction was evident. When the helium-oxygen mixture was inhaled in the tent, the rate fell to 20 per minute, with marked relief of dyspnea. That the presence, or absence of anoxemia is also involved as a basic factor, was revealed by the behavior of this infant as well as by that of the infant with laryngeal edema. In both instances, a greater degree of comfort was produced when the oxygen was raised slightly above 21 per cent, in one case to 24 or 25 per cent oxygen and in the

other 28 to 30 per cent oxygen. However, when the oxygen concentration was further increased, dyspnea of the obstructive type recurred.

"The specific gravity of helium being one-seventh that of nitrogen, a mixture of 80 per cent helium and 20 per cent oxygen has one-third the weight of a comparable volume of air. Since the pressure required to move an object is, in general, proportional to its weight, it was assumed that a relatively light respirable gas could be breathed with less effort in clinical conditions in which difficulty in ventilating the lungs was present."

In our own experience since 1930, we have had 430 bronchoscopic, esophagoscopic and laryngoscopic operations. One hundred and thirty-nine have been laryngoscopies, 201 bronchoscopies and 88 esophagoscopies. Of these, 62 have been foreign bodies; 48 of which were in the esophagus and 14 of which were in the tracheobronchial tree. Of the latter, four have been peanuts, one wax bead, one thumb tack, two walnut kernels, one bean, one corn, one orange seed, one perstick tip, one match and one diphtheria membrane. Upon 279 bronchoscopy and laryngoscopy patients we have done five tracheotomies, with one death, that of a little child 14 months old with a bean in the right main bronchus of 78 hours duration. We have had a few cases which we believe are deserving of fairly careful report.

The first case represents an unusual condition, namely, a diphtheria membrane dislodged from the larynx and becoming a foreign body, blocking both the right and the left main bronchi almost completely. M. K., age nine, was brought to Cook Hospital, Fairmont, W. Va., November 30, 1932 at which time the child was found in desperate air hunger with obstruction of laryngeal character. An immediate but orderly tracheotomy was performed with relief of laryngeal symptoms. On December 1, 1932, the child was also given 20,000 units of antitoxin and her general condition seemed good. We were having considerable difficulty in maintaining a clean, patent tracheotomy tube, however. On December 2, 1932 at about 9 a. m., Dr. Thomas and I were in the hospital preparing for surgery when we received an emergency call that this child was choking terribly although the tracheotomy tube was open and clean. On observation it was quite evident that the child had developed obstruction to her respiratory tree and, apparently it was low. With this in mind, we obtained as rapidly as possible a laryngoscope, bronchoscope and forceps. Immediately upon bronchoscopy, we observed a foreign body resembling fatty, bloody material lying upon the carina and projecting into the right and left main bronchi. This was removed and almost immediate relief was obtained. Realizing that there was more exudate within the larynx that might become dislodged, we left the bronchoscope and laryngoscope and appropriate forceps ready for any future emergency. At about 9 p. m. the child again developed similar symptoms but much less marked and again we bronchoscoped her and obtained a similar foreign body. There was no further difficulty and the patient was discharged from the hospital on December 16, 1932.

I. F. J., seen September 18, 1933 with the history that 78 hours before the child was playing with a number of articles among which were buttons, beans and grains of corn. Child had a violent choking spell, became cyanotic and after two or three minutes seemed all right. However, the mother noticed that the child continued to have a peculiar wheeze and she referred the child to her family physician who found evidence of a foreign body in the lung. X-ray examination and physical findings showed evidence of atelectasis of the whole right lung. A bronchoscopy was performed on date of admission and a large bean was found impacted in the right main bronchus; the bean was swollen, soft and difficult to remove. The next day there was evidence of the right lung expanding although the temperature was on the increase along with an increase in the

pulse and respirations. There was definite evidence of laryngeal obstruction. A tracheotomy was performed with some relief. Child was gone over quite carefully by Dr. C. L. Holland who felt that the right lung was clearing, although the child seemed to be having definite air hunger. On September 20, 1933, at 1 a. m., I was called to the hospital to find the child in a desperate condition. She was tossing violently in bed, with very anxious fascies, marked dyspnea and cyanosis. Oxygen was administered but the child did not respond and died a few minutes later.

This represents a type of pathology that might have been controlled, and even a satisfactory convalescence might have been enjoyed, if oxygen therapy had been administered from the time of the removal of the foreign body.

B. J. B., age four, presented on November 12, 1935, with a history that on November 11, 1935 at about noon, while playing with some corn grains and other objects, the child suddenly became choked, had a violent coughing episode which was followed by a persistent "wheeze." She was gone over carefully by Dr. C. L. Holland who was unable to find any evidence of altered lung symptoms except for an occasional asthmatoid wheeze. It was our impression that a foreign body was in the tracheobronchial tree which was in a position that it did not obstruct the passage of air. On November 12 about 9 a. m., the child was taken to the operating room and a corn grain was found in the trachea. This was removed with considerable difficulty. The child was returned to her room and on November 13 began to develop classical signs of laryngeal obstruction. The child developed almost complete blockage of the larynx and a tracheotomy was performed giving immediate relief. The child did fairly well until along in the late evening when she began to develop air hunger and was obviously quite apprehensive. There had developed a swelling over the buccal pads, face, neck and anterior chest region which was soft, crepitant and painless. This we interpreted as subcutaneous emphysema as a complication of her tracheotomy. Temperature at this time was 100.8, pulse 142. The tube was being cleansed frequently, in order to assure free passage of air. On November 15, 1935 at 12:30 a. m., I was called to the hospital to find the child in an alarming condition. She was tossing about in her bed, anxious fascies, cyanotic and was in desperate air hunger. Her emphysema was unchanged although her chest was hyperresonant. No râles nor areas of dullness could be made out. Oxygen was administered directly through a tube and inverted funnel over the tracheotomy tube, with almost immediate relief of air hunger, clearing of the cyanosis and relief of the child's anxiety complex. With this in mind, an oxygen tent was ordered and the child was placed into the oxygen tent, with a control of her dangerous symptoms. On November 16, the temperature ranged from 105 to 102 degrees and pulse from 160 to 130 with the respiration rate of 40 to 30. The child continued to improve, her physiologic indices began to return toward normal and the subcutaneous emphysema was absorbing nicely. The child was removed from the oxygen tent on November 18, 1935 at which time the temperature was 102 degrees, pulse 130, respiration 26. She breathed easily and there had been a complete control of her air hunger complex. On November 19, 1935, the tube was removed. On November 25, 1935, she was discharged from the hospital in excellent condition with the tracheal wound closing and the laryngeal caliber adequate for essential breathing. This child represents a fortunate outcome of what proved to be a lethal illness in the former report. Apparently this child had the identical condition as did the case in the previous report up to the point of resorting to the use of the oxygen tent.

A few conclusions are justified as regards the oxygen tent therapy. 1. It almost certainly increases the oxygen tension in the tracheobronchial tree and this in itself may decrease

serous leaking through the altered cell walls and it may even have a repelling influence on edema already present. 2. It is possible that rapid breaking down of vegetal juices into relatively innocent products may be accomplished by the oxygen increase. 3. By improving the tracheobronchial ventilation the general vascular circulation is proportionally improved, encouraging the return of normal factors. 4. It is possible that the additional oxygen so obtained may have a beneficial effect as a ciliary resuscitant. 5. Many tracheotomies may be prevented by the use of the oxygen tent routinely in this connection upon the first signs of development of laryngotracheobronchial edema or occlusion.

BIBLIOGRAPHY

1. Clerf, L.: *"Foreign Bodies in the Air Passages; Observations on Complications and End Results."* Annals of Otology, Rhinology & Laryngology, Vol. 44, No. 3, page 879, Sept., 1935.

2. Jackson, C.: *"The Mechanism of Physical Signs in Neoplastic and Other Diseases of the Lung, with Special Reference to Atelectasis and Emphysema."* J. A. M. A. 95:639 (Aug. 30) 1930.

3. Brume and Brill, S.: *"Observations on Postoperative Pulmonary Atelectasis."* Annals of Surgery 92: 801 (Nov.) 1930.

4. Brown, A. L.: *"Bronchoscopic Observations in Postoperative Atelectasis; Actions of Carbon Dioxide."* J. A. M. A. 95: 100 (July 12) 1930.

5. Clerf, L.: *"Peroral Endoscopy."* Archives of Otolaryngology. March, 1931, Vol. 13 P. P. 444-461.

6. Heatly, C. A. and Cluasen, S. W.: *"Experimental Studies in Peanut Bronchitis."* Arch. Otolaryngology, 11: 569 (May) 1930.

7. Hart, V. K. and Pieler, C. N.: *"Primary Tracheobronchial Diphtheria."* Arch. Otolaryngology B: 714 (May) 1931.

8. Van Allen, C. M. and Lindskog, G. E.: *"Collateral Respiration in the Lung; Role in Bronchial Obstructive to Prevent Atelectasis and to Restore Patency."* S. G. & O. 53:16 (July) 1931.

9. Norris, L. D.: Personal communications.

10. Guiernot, A. J.: *"Bronchoscopy and Esophagoscopy in Infancy."* Laryngoscope, 39:309 (May) 1929.

11. Barach, A. L.: *"The use of Helium in the Treatment of Asthma and Obstructive Lesions in the Larynx and Trachea."*

12. Aucoin, E. L.: *"Peroral Endoscopy; Report of a Consecutive Series of One Hundred Foreign Bodies in the Air and Food Passages."* Arch. Internat. de laryn. 8:513 (May) 1929, 640 (June) 1929.

13. Looper, E. A.: Personal communications.

GALL-BLADDER DISEASE*

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GALLSTONE disease is one of the most common of diseases. It occurs in about 10 per cent of males of adult years and about 25 per cent of women who have borne children. Women who have not had children are not more apt to have gallstone disease than males.

Although the bile is formed more or less continuously, it enters the duodenum periodically during the time of digestion. The secretion during the intervening periods is prevented from entering the duodenum by the sphincter muscle about the opening of the common bile duct known as the Sphincter of Oddi. The bile therefore backs up into the gall-bladder and is concentrated to one-tenth its volume by the cells of the cystic duct. Then, when the bile is needed in the digestion of a meal, the chyme is ejected into the duodenum and the bile is released by the relaxation of the Sphincter of Oddi and the contraction of the gall-bladder. The cells in the cystic duct dilute the bile as it passes out and it again has the same concentration as when it was secreted by the liver.

The substance in the chyme that are responsible for the stimulation are the fats and proteins or some of the products of their digestion.

The nerves supplying the gall-bladder, both motor and inhibitory, are from the splanchnic and vagi. These splanchnic fibers emerge from the spinal cord in the roots of the sixth thoracic to the first lumbar spinal nerve and pass to the celiac plexus by way of the splanchnic nerves. Sensory fibers are found in both the splanchnic and vagus nerves. The afferent path is formed by the vagus fibers and the efferent path by the splanchnic fibers.

The physiological value of bile is both a

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medium of excretion and a digestive secretion. The bile accelerates the action of the lipase of the pancreatic juice in splitting the fat into fatty acids and glycerin. The bile acts as a solvent for the fats and fatty acids. Bile prevents or limits putrefaction in the intestine. This probably readily explains the flatulence found in diseased gall-bladder conditions.

Etiology: The etiology, one can say, is pretty well understood and is simple. Certainly one of the most important factors is that of stagnation, an over saturated solution of cholesterin in which the cholesterin, or cholesterol, is deposited around some nucleus, just as sugar is deposited around a string in a candy solution in the formation of rock candy. However, that is not all there is to it. There is no doubt that the stagnation is an essential and important factor, but the other factor is that of infection. Infection plays a very considerable part in the production of gallstone disease, infection from the colon bacillus and the ordinary microbes.

The most common cause of marked gall-bladder disease; namely, gallstone formation, is a part of a general metabolic disturbance. This metabolic change is the main factor in coronary artery disease and a variety of other conditions.

How can we tell that a patient has gallstone disease? Fortunately, of the 25 per cent of women who have borne children and 10 per cent of other adults who have gallstones, only 20 or 23 per cent ever have symptoms which lead to their detection and demand interference.

The clinical picture of gallstone disease is pain in the abdomen, radiating to the back and right shoulder—knife-like pains radiating to the right shoulder, flatulence, eructations of gas. Occasionally there is icterus and clay colored stools. These attacks leave the patient with tenderness over the right upper quadrant. Very frequently there is pain referred to the left costal cage, with attacks over the precordium which simulate anginal attacks. Besides the tenderness, one may palpate a distended gall-bladder. Evarts Graham has developed a plan of visualizing the gall-bladder in the x-ray, which has added very much to our ability to make correct diagnosis. However, there is no laboratory test that supersedes good clinical evidence. Never should we remove a gall-bladder because of the cholecystography findings of not filling. In other words, the fact that a gall-bladder does not fill is not conclusive evidence that the patient has gallstones or cholecystitis. Why? There are three outstanding conditions which produce non-filling of the gall-bladder:

1. *Pregnancy:* During pregnancy frequently the gall-bladder will not fill—after delivery it will.

2. In the presence of acute ulcer, particularly duodenal, the gall-bladder will not fill and visualize with the dye during the active stage of the ulcer symptoms. After the active symptoms and pylorospasm have subsided, the gall-bladder will fill and empty normally.

3. In the presence of well-marked colitis, the gall-bladder will not visualize.

Therefore, without the clinical evidence of gall-bladder disease and a non-filling gall-bladder, we do not operate. On the other hand, there has been a definite number of cases who have had typical histories of gall-bladder disease whose gall-bladder filled and emptied normally, which have been operated upon and found to have definite gall-bladder disease.

The question often arises about the safety of giving the gall-bladder dye to patients intravenously. This is a dangerous thing to do in the presence of (1) history of coronary disease, (2) marked arteriosclerosis, (3) elderly patients. (Some observers have thought that they have seen subacute cholecystitis converted into acute cholecystitis by intravenous dye). (4) patients with known marked liver damage.

It seems that when a patient has had one attack of gall-bladder disease, operation

should be performed. The damage to the liver cells and biliary tree is the important thing and not the damage to the gall-bladder. Carrying patients through repeated attacks of the disease with morphia is wrong. The liver damage is sure to happen and the mortality will be much greater. If these cases are operated upon the first attack, the mortality will be lower and the end results will be infinitely better.

In reviewing the literature I find that Moynihan, Lahey, Bevan and others are doing more and more removal of gall-bladders rather than drainage. They feel that the best results are obtained from removal unless there is some very strong contraindication. When they do drain they do not attach the gall-bladder to the abdominal wall for the heavy liver to drag upon. The gall-bladder is left free. Drainage of the stump of the cystic duct for seven days is universally followed and is undoubtedly the safe procedure.

STRIDES IN PUBLIC HEALTH*

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THERE has been active work in the field of public health in the State of West Virginia for the past fifteen years or we might even say for the past twenty years, but it has only been within the past decade that there has been any marked advancement in public health in this state and this is roughly true of the United States as a whole. The pioneer work in public health was done by our previous health commissioners and especially do I want to mention Dr. W. T. Henshaw, whose untiring efforts and vision in the field of public health of this state has been surpassed by none. Due to this firm foundation which was laid by his predecessor, our present state health commissioner, Dr. Arthur E. McClue, has been able to expand and extend the program of public health work in this state, but it has been only through very close observation, direction and determination that Dr. McClue has been able to accomplish the things that have been done during his administration.

That we may have a picture of the progress that has been made, I wish to consider some of the work that was done in the public health field in West Virginia during 1930 as compared with that which was done in 1935. At present there are three more health units and two more nursing services in West Virginia than there were in 1930. This expansion has not been great but the quality of work has been greatly improved due to a larger personnel, thereby giving more adequate health services. One of the weakest links in the chain of public health in this state has been the quality of work done. The quality has been sacrificed for the quantity. This has not necessarily been the fault of the health workers, but rather has been due to the public demanding that their services be spread over as great an area as possible, thus, necessarily sacrificing quality for quantity. The remedy for this condition is more and better qualified personnel, with better organized programs. Superficially, it would seem that the public health work in West Virginia had progressed very little in the past five years, but I hope to show later where marked improvements have been made. We must also consider the fact that the first three years of this period were classed as depression years and I think that we were very fortunate not to have had any health units or nursing serv-

*Read before the West Virginia State Health Conference at Wheeling on October 13, 1936.

ices dispensed with during that period. Progressive organization in public health work in this state was born with the Social Security Act.

In considering public health progress, one of the first things that comes to mind is the question, "What has been done to control communicable diseases," and "Has there been any marked reduction in the mortality rates for the various communicable diseases?" The answer is yes and no. The mortality rate for diphtheria, scarlet fever, meningitis, poliomyelitis and syphilis were all higher for the year 1935 than they were for 1930. These last three diseases effect the nervous system and it is very true that most all diseases of the nervous system are becoming more prevalent throughout the United States as well as West Virginia. Diphtheria and scarlet fever are two of several diseases that occur in cycles, flaring up every few years. However, disregarding this feature we have to face the fact that the diphtheria death rate has not been reduced and will never be reduced to any marked extent as long as we follow the procedures of a few years ago. In the past few years practically all of the immunizations for diphtheria were done among children of school age. Eighty-four per cent of the deaths from diphtheria in the past few years occurred in children below school age, while only 15 per cent of the immunizations were done in this group. The way, and the only way by which diphtheria death rates can be reduced is by immunizing the child during the first year or two of life.

Syphilis is one of the diseases that effect the nervous system and the death rate in West Virginia was higher in 1935 than it was in 1930. It is believed by many that there has been an increase in venereal diseases in West Virginia and the United States in the past decade. This fact I do not dispute, but it is also true that a diagnosis of syphilis is made more often now than previously, partly due to laboratory methods and partly due to more thorough examinations. There were eight more venereal disease clinics being conducted in this state in 1935 than there were in 1930. There was also an average of 1100 more treatments being given monthly during 1935 than in 1930. This figure within itself would lead us to think that there had been a marked increase in the prevalence of venereal diseases; it has not been due to the fact alone but is partly due to the fact that people in the past few years have realized the importance of treatment and the danger of their physical well-being if remaining untreated. The state health department has been furnishing drugs free for the treatment of syphilis for a number of years. Even though several thousand more free treatments were given in 1935 than in 1930 the expenditure for drugs were approximately the same, the reason being that the drugs were purchased in larger quantities and at a lower cost. Although approximately three thousand treatments are being given monthly in the clinics in this state for venereal diseases, less than one-half of the cases are under treatment or supervision.

Tuberculosis, one of the dreaded diseases of all human beings, is receiving no little attention in this state, but in my opinion too little. There were approximately 950 more cases of tuberculosis reported in 1935 than there were in 1930. Even though the morbidity rate has increased, the mortality rate has been reduced. This great increase in the number of cases reported has been due to the active work of the West Virginia Tuberculosis Association, public health authorities and other coöperating agencies. The chief factor in the reduction of tuberculosis deaths has been early diagnosis and treatment, and the protection of exposed individuals. Again here is where we notice the effect of health education.

There has been a very marked reduction in the deaths from diarrhea and enteritis, there were less than one-third as many deaths from this disease in 1935 than in 1930, and one of the chief factors which has helped to reduce the death rates of diarrhea, enteritis, and typhoid fever has been the proper disposal of sewage, namely, the building of our

135,000 sanitary privies and the several sewage systems that have been installed in small towns; and the typhoid mortality rate has been reduced to less than half of what it was in 1930. As we all know, the great majority of deaths from diarrhea and enteritis occur in children under two years of age and this has been a big factor in reducing the infant mortality rate which was 25 per cent less in 1935 than in 1930.

A few months ago Ripley carried in his column "Believe It Or Not" the following: "The life span of man has not increased any for several centuries." This would lead the public to believe that the average length of life was no more today than it was three or four centuries ago. However, what was actually meant was that certain individuals lived to be as old several centuries ago as some have at the present time. When we compare the average length of life for the individual of three centuries ago and the average length of life for today there is a vast difference. Only a few years ago the life expectancy of a person was forty-five years, whereas today the average life expectancy is approximately sixty-one years. This increase has been due chiefly to one thing, namely, the reduction of infant mortality. The infant mortality rate in West Virginia is approximately 15 per cent higher than it is for the United States. I stated a minute ago that the infant mortality rate had been reduced 25 per cent in the past five years and we hope that within the next two or three years to see the infant mortality rate of this state reduced to that of the United States or lower. I feel that the maternal mortality rate and the infant mortality rate both can be reduced fifty per cent by the practice of better obstetrics and when expectant mothers receive adequate prenatal care.

The work done in the State Hygienic Laboratory has practically doubled in the past five years. There were more than twice as many blood examinations for syphilis in 1935 than in 1930. The amount of typhoid vaccine made and distributed by the State Hygienic Laboratory was 40 per cent more in 1935 than in 1930. There was an increase of 45 per cent in the number of water analyses made; here I might add that the laboratory at the present time is in much better position to serve the people of West Virginia than it has ever been before.

The work in the field of sanitation has made a marked advance in the past few years and I need not hesitate to mention again the nationally recognized privy program. The value of this work is shown in the reduction in the mortality rates for intestinal infections. There have been over fifty new or improved water supplies and purification plants installed in West Virginia in the past five years. Many of these were built under the PWA, but all of them are now in successful operation under the supervision of trained and licensed operators. As yet, the milk control program in this state has made little progress. However, more progress has been made in the past few months in controlling the distribution of milk than any time in the past few years.

I have herein given a resume of the public health work with some of the results in this state for the past few years. It is comparatively easy for one to survey the work of the past, but to forecast the future and outline the best procedures to follow is many times a very difficult task. However, I feel that there are certain fundamental procedures and methods that must be followed if public health is to be organized on a sound basis.

First, before any type of health work can be done, or even attempted if it is to be successful, the public must be educated to the necessity and value of the service, namely, health education must be the cornerstone of the foundation. There is no work in the field of public health that is more essential and pays larger dividends than public health education when properly given, and without this education all attempts to do public health work will be in vain.

Second, the service must be efficient, adequate and rendered in an economical manner.

The efficient service can only be done by trained persons and the minimum requirements for persons entering the public health field is one year's postgraduate work in the field of public health. To give this service in an economical maner to the whole population of the state, most health units will have to be district units instead of county units. Most counties of this state are too small in population, wealth and area to support a health unit alone, but by combining some of the smaller counties the people can receive the necessary health service.

Third, the public health program must have the endorsement and coöperation of the medical profession. This is just as essential as it is for a human being to have two legs in order to walk, otherwise the work would be a short series of hops. This coöperation is of greater value to the medical profession than it is to the public health program. *People do not seek the assistance of a physician until they realize the necessity for doing so and here again is where health education is essential.* Public health is not socialized medicine nor do public health workers want socialized medicine any more than does the medical profession. However, if the physicians do not coöperate, thereby allowing such work to be done outside of organized medicine, they are enhancing the progress of socialized medicine. *Organized medicine must coöperate in this work if we are to prevent persons with political aspirations from forcing socialized medicine down our throats.* Again, I say that coöperation of the medical profession and public health is essential for the protection and progress of both.

In closing I want to leave one thought for your consideration: "Public health, or preventive medicine, and curative medicine will in the near future be so closely associated that we will not have the two fields, as we do today."

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

Medical treatment alone is not always enough to insure the recovered tuberculosis patient against relapse. When he returns from the sanatorium to the care of his own physician he is faced with the difficult problem of adjusting himself to normal living and to regular employment. How well he succeeds in making this adjustment will depend very largely on what has happened to him during his period of curing. The newer emphasis on social diagnosis and treatment which is being introduced in many sanatoria will therefore be of interest to the general practitioner who has the difficult job of keeping his patient well.

Treat the Whole Man: The prevention of relapse among arrested cases of tuberculosis is a chief concern of those engaged in tuberculosis work. Various schemes such as sheltered workshops, convalescent homes and camps have been set up from time to time but they reach only about one out of every seventy-five patients who need such service. It is essential that some practical program be worked out that can be applied on a much wider scale.

In an effort to escape from theory and opinion and to build a program based on the actual needs of patients, a factual study was made of 5,000 patients over 16 years of age in 40 sanatoria in 15 states. The results show that the majority of sanatorium patients are young; with limited schooling; with occupational experience largely in the semi-skilled or unskilled group; in need of vocational guidance; with definite desires for further study and training. In the light of these findings it was decided to stop using the term "after-care" since by waiting until after the patient has been discharged from the sanatorium, opportunity for guidance and training is lessened and sometimes lost. "Social and vocational rehabilitation" more accurately describes the ultimate goal, which is "to return each patient to that place in society where he can obtain the greatest amount of happiness for himself, at the same time that he is giving his best to the common life around him."

Guidance involves a knowledge of the individual to be guided and a knowledge of the community in which he is to live. Proficiency in a certain type of work and enjoyment of that work usually go together. It is important to find each patient's strong points and to give him all the training he

can take in line with his best abilities. Vocational adjustment, important for everyone may be a deciding factor between illness and health in the case of the tuberculosis patient.

While aptitude tests are of great help in counseling much can be accomplished without them. Careful study of school life, in terms of subjects liked and disliked; of occupational experience in terms of satisfaction or dissatisfaction; of leisure time including favorite sports and amusements, preferred magazines and newspapers, will throw a great deal of light on the patient's abilities. It is equally important to get at the patient's tastes, and his hopes and ambitions for the future. Knowledge of work opportunities in the community is of course essential to the giving of sound vocational advice.

The methods outlined above are called "social and vocational diagnosis." Just as medical treatment is undertaken only after a complete medical diagnosis has been made, so social plans should be made only on the basis of a diagnosis of his social and vocational needs.

Complete physical rest cannot be obtained without peace of mind. Planning for the future often lays most of the patient's persistent worries, thus facilitating the medical cure. Planned study is proving its therapeutic value in many sanatoria. Teachers are furnished by the sanatorium, through WPA funds, depending on the resources of the community. Instruction is brought to the bedside by tutors and through radio. Some sanatoria have their own broadcasting system so that patients in the different wards throughout the hospital can be included in classes. Regular grade school work, high school and college subjects and a number of vocational courses are being taught.

After discharge the study begun at the sanatorium is carried on through outside agencies notably through the State Rehabilitation Bureaus which exist in 44 states. These bureaus have public Federal and state funds for the retraining of people who because of accident or illness should not return to their old occupations.

But the best guidance and training is barren unless it results in actual placement on a job. The widening Public Employment Service is deeply interested in fitting people who have recovered from tuberculosis into suitable employment. The recovered patient is not treated as a handicapped individual. His assets not his liabilities are stressed. In days of vast unemployment it is more than ever essential that the recovered patient be trained along the line of his greatest capacity.

Patients are often told to return to their old occupations, but for a very large number of them this is not possible. A recent study of more than 300 patients revealed that two-thirds of them must be trained for new occupations. There is no simple formula for this solving of the problem of rehabilitating the tuberculous. The problem is social as well as medical. Medical diagnosis and social diagnosis, treatment and training, recovery and placement in a suitable occupation are essential elements in the solution of the problem of rehabilitation and the prevention of relapse.

Rehabilitation of Sanatorium Patients in the U. S. A., Beulah W. Burhoe, Ph.D., Bull. De L'Union Internationale Contre La Tuberculose, Vol. XIII, No. 1, Jan., 1936.

TWENTY-FIVE YEARS AGO

(From the February, 1911, issue of the West Virginia Medical Journal.)

Dr. Charles A. Wingerter made the address at the annual memorial exercises of the Elks at Elkins on December 4. His address was on "The Unseen Realities", and was of a very high character. Dr. Wingerter was also guest of honor at a social session of the Barbour - Randolph - Tucker Society while in Elkins. He has also visited Monongalia, Kanawha and other societies. The man who wants to be the next president had better be a progressive men also, or we may re-elect Dr. Wingerter.

* * * *

Dr. and Mrs. E. S. Rogers
will give in marriage their daughter
Dannie Kate
to
Dr. Benjamin Spotswood Preston
on Wednesday evening, January the twenty-fifth
one thousand nine hundred and eleven
at eight o'clock
Centenary Church
Knoxville, Tennessee.
The honor of your presence is requested.

* * * *

Many Wheeling physicians have recently been engaged in postgraduate study, confined largely to materia medica. It is a safe bet that they now know more as to the poisonous effects of arsenic and lead acetate than ever before. Reason: They had to pass a competitive examination at the hands of more or less shrewd lawyers in the presence of a very large audience.

PRESIDENT'S PAGE

For nearly two score years I have had an opportunity to observe the progress and development of the West Virginia State Medical Association. It is a record of which we may all feel proud. Persistently and consistently our Association has striven for certain ideals. Progress has been slow, sometimes painful, but the achievements of organized medicine in West Virginia since that first meeting in Fairmont on March 20, 1867, lend luster to the history of our State.

You have done me the honor of electing me to the Presidency of our Association. I want you all to know that I genuinely appreciate the honor and at the same time realize the obligation and responsibility that it entails. I want to pay a tribute of praise to the worthy men who have preceded me in this office, and I hope that the accomplishments of 1937 will compare favorably with those of the years that have gone before.

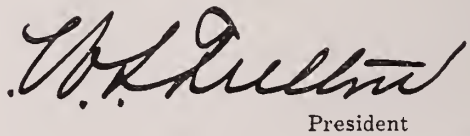
The retiring President, my good friend Dr. Charles G. Morgan, presided over our Association during a year of social and political unrest. Legislation of such a nature as to affect the lives and habits of all of us has been enacted. From the standpoint of the doctor perhaps the most important issue is the launching of the National and State plans for social security.

It has been my privilege to serve on the State Advisory Board for the Department of Public Assistance since its inception, and I sincerely hope that there will be a medical man on that Board as long as the organization functions. Medical counsel is urgently needed, since the Department of Public Assistance, among its many duties, manages the medical relief for indigents, rehabilitation of the physically handicapped, the crippled children's program, and the aid to the blind.

In the past our profession has cared for the indigent and the near-indigent without thought of financial reward. The service was usually adequate. Sometimes it was inadequate. Frequently it was a hardship on the physician. Most of us felt that physicians as a class should not be called upon to shoulder the entire burden of medical and surgical attention for the poor—that it should be the obligation of society. Under the social security plan now contemplated the physician will receive a minimum compensation for this work that was previously done on a charity basis, and freedom of choice in the selection of his physician will be preserved for the patient.

This is a critical time. The medical profession is on trial. It is up to us to render as good service to the indigent as to private patients. The small fees should be accepted graciously, not as adequate compensation, nor as a yardstick for calculating private fees, but rather as a token of appreciation for humanitarian service. If we meet the challenge in this way, we shall contribute our part to a worthy cause, and at the same time preserve our profession from the more vicious aspects of State medicine.

The State Department of Public Assistance covers a vast and important field. The problems confronting the Director of Public Assistance are stupendous. He has a great responsibility and he needs our enthusiastic cooperation. Underlying the whole plan is the idea that every man is his brother's keeper. Let us hope that the medical profession of the state will cooperate in every way and thus lighten his burden rather than add to it.



President

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DR. MORGAN—DR. FULTON

". . . so help me God and keep me steadfast."

These are the words which closed the acceptance of Dr. Charles G. Morgan of the

DR. C. G. MORGAN, *Past President*

presidency of our Association. And they are the index, the key to his term as chief executive. A thunder cloud of state medicine lurking constantly on our horizon seemed dangerously near at times during this past year but the steadfastness asked for by this unpretentious gentleman, our president, did much to encourage our resistance and steady our course at all times. The expired term of Dr. Morgan will not be remembered for its

DR. W. S. FULTON, *President*

weighty issues but rather never forgotten for its kindly months of peace and harmony brought about in a great measure by the leadership of a respected and beloved confrere.

With our forces strengthened and our horizon cleared of the smoke of many battles, the Association welcomes its new president, Dr. W. S. Fulton. He assumes the rôle of chief executive backed up by the loyalty and confidence of the entire medical profession of the state. We welcome him to the beginning of what we feel will be a militant year; a year of achievement under the guidance of a distinguished gentleman and a capable general.

Gentlemen . . . Dr. Fulton.

OUR MEMBERSHIP STATUS

It is with considerable satisfaction that we point to our Association membership record for 1936. At the time this is written, we have more than 1150 members in good standing. We have but 19 delinquent members in the entire state and we have 19 county societies 100 per cent paid up. The entire second Councillor District, headed by Dr. B. C. John and Dr. W. G. Harper, is in the 100 per cent column.

Because of deaths and transfers, the Association lost heavily in membership during the past 12 months. However this loss was more than made up by the induction of 110 new members during the year. Several of our county societies are already making plans to further increase their membership for next year.

Our honor roll of counties with no delinquent members includes Barbour-Randolph-Tucker, Boone, Brooks, Central West Virginia, Doddridge, Eastern Panhandle, Grant-Hampshire-Hardy-Mineral, Hancock, Kanawha, Lewis, Marshall, McDowell, Mingo, Monongalia, Parkersburg Academy, Preston, Raleigh, Taylor, and Wyoming.

THAT COAL BULLETIN

Many of our JOURNAL readers have no doubt seen the November 27 Bulletin issued by the West Virginia Coal Association in which a rather vicious attack is made on the medical profession. Figures are cited to show that compensation payments to physicians and surgeons under the new liberalized compensation law increased $188,000 during the first year the law was in operation. Unwarranted and extravagant language is used to indicate that the doctors are taking unfair advantages of the new compensation act and raiding the fund in a most frightful manner.

As this Coal Association Bulletin has apparently had a rather wide circulation, it seems important that our members acquaint themselves with the real facts so that the absurdity of the coal bulletin can be pointed out. And the absurdity of the bulletin can best be shown by a comparison of our West Virginia basic rate on coal per $100 payroll with the basic rates of our neighboring states. For example:

The basic rate in Virginia is $6.50.

The basic rate in Pennsylvania is $7.35.

The basic rate in Ohio is $8.50.

However, the basic rate in West Virginia is much lower, or $3.50.

The maximum rate that can be paid by the coal industry in West Virginia is $7.76. The maximum rates in Virginia, Pennsylvania, Ohio and Kentucky are more than $12.00.

With a basic rate of $8.50, the Ohio compensation fund last year sustained a loss of more than four million dollars. The West Virginia compensation fund, with a basic rate of $3.50, had a surplus of more than one hundred thousand dollars.

Of course we all know that the reason West Virginia has such an extremely low rate is because our doctors, through the old list system, have for some 23 years done much of the compensation work for nothing. Now that the new compensation law is bringing about the payment of physicians and surgeons for their compensation services, the Coal Association is yelling bloody murder. Apparently they do not appreciate past favors. It should be remembered that if there was an increase of $188,000 in medical payments this past year, then we must have given the coal industry $188,000 the year before, and the year before that, and on back to the original passage of the compensation law.

Examining this Coal Bulletin more closely, we find some interesting disclosures. The Bulletin calls attention to the expenditure of $565,000 for medical service in 1936, as against $378,000 in 1935, $369,000 in 1934, etc. That is where the increase of $188,000 is pointed out. But what about the increase in wages paid employees of the coal industry, upon which the basic rates are fixed. These wages have increased from approximately $52,000,000 in 1933 to approximately $125,000,000 in 1936. The percentage is interesting.

The Coal Bulletin states that the effect of the new compensation law is largely borne by the coal industry. That certainly should be correct, for the coal industry is almost the only industry in West Virginia that has secured free medical service for some 20 or more years.

The Coal Bulletin set forth that labor was beguiled into supporting our amendment to the new compensation law on the theory that they were paying for their own compensation and the promise that their list rates would be reduced if the amendment was adopted. We made no such promise to organized labor. The labor representatives in the legislature were interested mainly in having injured employees treated as private patients under the compensation fund instead of the "mass production" method of treatment under the list system. At the time the new compensation law was passed, business conditions were at a low ebb and the payroll deduction for list service was reduced to an absolute minimum. Since the amendment was adopted there has been a general increase of about 40 per cent in all commodities, including hospital supplies and equipment, but there has been no increase so far as we know in the list rates anywhere in the state.

The wail of the Coal Association leaves untouched the vast amount of compensation work that has been and still is being done free by the several hundred company doctors who practice in the coal camps. These men treat compensation cases day after day and month after month and if any of them have ever collected for such services we have yet to hear of it.

Association members will no doubt be interested in the estimate in the Coal Bulletin of their charitable activities. To quote, "The huge sums of money paid annually to doctors and hospitals reflect evidence that so-called charity work by the medical profession does not exist in their industrial practice." Apparently the Coal Association still feels that our services to their injured employees should be charity. It is difficult to understand this reasoning.

We are informed by the compensation department that there is no indication of undue irregularities on the part of the medical profession of West Virginia. However there are apparently many of our doctors who are not complying with the provisions of the new statute. Otherwise the increase in medical payments from the compensation fund should be in the neighborhood of three hundred thousand dollars per annum instead of one hundred and eighty-eight thousand.

PHYSICAL THERAPY

Just as all the industrial world has been going through a machine era, so has medicine turned to the use of mechanical devices in the treatment of disease, Dr. Frank H. Krusen points out in his article, "Medicine Keeps Step with the Machine Age," appearing in the December issue of *Hygeia*.

These devices come under the meaning of the term "physical therapy" which is the treatment of disease by means of light, heat, water, electricity and mechanical means. Such therapy may be divided into five main branches: (1) light therapy, the treatment of disease by means of light rays; (2) heat therapy, which employs various heating devices; (3) electrotherapy, the use of electricity; (4) hydrotherapy, the employment of various water applications, and (5) mechanotherapy, the treatment of disease by means of massage, corrective exercises and mechanical apparatus.

Light therapy includes ultraviolet and infra-red ray treatment of the affected area. Heat therapy develops fever by means of short radio waves in the individual when none is naturally produced. Electrotherapy produces high frequency, or diathermy, currents which are used today for the production of deep local heating effects in the various portions of the diseased human body.

Because of the fact that hydrotherapy, or water treatment, is so commonplace, its efficacy is often underestimated. Its uses are extolled in the late Simon Baruch's "Epitome of Hydrotherapy." As a stimulant cold water is dashed into the face of a fainting person; as a sedative a tub bath at 100 F. is prescribed; as a tonic the brief cold shower is well known, and there are many other uses.

The successful uses of massage and exercise are well known in rehabilitating crippled individuals.

OBITUARIES

DR. BENJAMIN L. HUME

Dr. Benjamin L. Hume, 62, died on November 30, 1936 after a week's illness. Dr. Hume was practicing medicine in Mallory at the time of his death. He had previously practiced at Barboursville and Huntington.

Dr. Hume obtained his schooling at Fredericksburg College and the Medical College of Virginia where he was graduated in 1900. He was a member of the Logan County Medical Society, the State Association and a Fellow of the American Medical Association.

DR. A. J. NOOME

Dr. Andrew J. Noome of Wheeling, West Virginia, died Thursday, December 3, 1936, after an illness of several months. Dr. Noome was a native of Wheeling but spent his young manhood in Philadelphia, where he was graduated from the Jefferson Medical College at the age of thirty years. Coming back to Wheeling in 1900 he began his practice of medicine which he followed for thirty-six years.

Dr. Noome was a member of the Ohio County Society, the State Association and a Fellow of the American Medical Association. Dr. Noome was also Medical Examiner for the Grand Lodge Ancient Order of United Workmen.

The Ohio County Medical Society passed a resolution in honor of their deceased confrere, lauding his many virtues and expressing the deep sympathy of the society.

DR. A. J. GOODWIN

Dr. A. J. Goodwin of Wheeling, West Virginia, died December 4, 1936 at his home in Wheeling. Dr. Goodwin was born October 5, 1890. He attended Allegheny College and graduated from the University of Pittsburgh. Later Dr. Goodwin became Medical Advisor at Cornell University in Ithica, N. Y. He also served with the U. S. Army Medical Corps during the World War, and was elevated to the rank of a Major in the Medical Corps.

Dr. Goodwin was a member of his County Society, the State Association and the American Medical Association. He also held a fellowship in the Mayo Clinic for four years following his return from the war. Dr. Goodwin specialized in surgery.

The Ohio County Medical Society passed a resolution expressing the great sorrow of the society at the untimely and sudden passing of their esteemed colleague.

DR. R. COALE PRICE

Dr. R. Coale Price died at Moorefield, West Virginia, December 1, 1936. Pneumonia was the cause of death. Dr. Price was sixty years of age and was one of Morgantown's best known general practitioners. He was visiting in Moorefield when he became ill.

Dr. Price attended Hampden Sydney College in Virginia, the University of Pennsylvania and Richmond Medical College where he received his degree in medicine. Afterwards he took postgraduate work in Baltimore, Maryland.

Dr. Price was a member of the Monongalia County Medical Society, the State Medical Association and a Fellow of the American Medical Association.

ALIMENTARY CANAL

The popular belief that the forced drinking of water eliminates poisons by flushing the system is false, declares Dr. Edwin A. Cameron in his article on "Kidney Disease" appearing in the December *Hygeia.*

Poisons cannot be eliminated in a mechanical manner but rather through the maintenance of good circulation and proper kidney function. The flushing theory is a mistaken supposition based on a lack of understanding of the physiologic processes of the body.

Nature has not endowed man with any direct kidney connection. The fact that asparagus or a drink like beer is rather quickly eliminated might seem to contradict this statement. The truth of the matter is simply that the waste materials of certain products of the digestion appear in the urine more rapidly than do others.

Plain water, however, which differs from food in that it does not require any digestive process, requires within normal limits four hours for reaching the bladder.

Since more than 50 per cent of the fluids which a person drinks is discharged through the kidneys, about 25 per cent through the skin, 18 per cent through the lungs and only four per cent through the intestinal tract, the importance of keeping the kidneys in good order cannot be overestimated.

COUNTY SOCIETY NEWS

BARBOUR-RANDOLPH-TUCKER

Dr. W. S. Smith of Philippi was elected president of the Barbour-Randolph-Tucker County Medical Society at a dinner meeting held at Thomas on the evening of December 10. Dr. Smith will succeed Dr. J. L. Miller of Thomas. Other officers elected were Dr. A. P. Butt, Jr., Elkins, first vice president; Dr. S. J. Skar, Davis, second vice president, and Dr. Guy Michael, Belington, secretary-treasurer.

The scientific program consisted of case reports by Dr. H. H. Bolton, Jr., Pierce, and Dr. J. L. Miller, Thomas. Also an interesting motion picture was presented on "Urological Diagnosis."

R. S. WOLFE, *Secretary*.

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on the evening of December 10, 1936, with a good attendance. During a short business session, Dr. Marvin C. Pritchard of Milton was transferred from the Kanawha to the Cabell County Medical Society.

The scientific program consisted of an interesting lecture on "Peripheral Vascular Diseases" by Dr. Lewis G. Herman, Clinical Professor of Surgery, University of Cincinnati.

CHAUNCEY B. WRIGHT, *Secretary*.

EASTERN PANHANDLE

The regular quarterly meeting of the Eastern Panhandle Medical Society was held at the Shenandoah Hotel, Martinsburg, at noon on December 9, 1936. There was an excellent attendance and the applications of six new members were received for action at the next meeting.

The speakers were Mr. Joe W. Savage, state secretary, and Dr. Charles H. Gay of Martinsburg. Mr. Savage spoke on various economic problems peculiar to West Virginia, with particular reference to the new Social Security legislation. Dr. Gay gave a very interesting talk on "Diseases of the Kidney in Infants and Children."

The annual election of officers was held and Dr. E. H. Bitner of Martinsburg was elected president to succeed Dr. Halvard Wanger of Shepherdstown. Dr. A. W. Armentrout of Martinsburg was elected first vice president; Dr. A. O. Albin of Charles Town, second vice president, and Dr. Edwin Cameron, Martinsburg, was reelected secretary-treasurer. Dr. Marvin H. Porterfield was elected to the Board of Censors.

Charles Town was selected as the place for the next quarterly meeting.

EDWIN CAMERON, *Secretary*.

FAYETTE COUNTY

The regular meeting of the Fayette County Medical Society was held at Oak Hill on the evening of December 8, 1936, with a good attendance. Dr. Harold Jones, Montgomery, was elected president to succeed Dr. George Fordham, who has served during the past year. Dr. W. E. Bundy, Minden, was elected first vice president; Dr. A. E. Bays, Longacre, was elected second vice president, and Dr. Gilbert Daniel, Gauley Bridge, secretary-treasurer.

Dr. S. W. Price, Scarbro; Dr. Paul E. Prillaman, Oak Hill, and Dr. B. F. Brugh, Montgomery, were elected to the Board of Censors.

WALTER D. SIMMONS, *Secretary*.

GRANT-HAMPSHIRE-HARDY-MINERAL

At the regular December meeting of the Grant-Hampshire-Hardy-Mineral County Medical Society, Dr. William A. Flick, Keyser, was elected president to succeed Dr. T. C. Giffin, who served during 1936. Dr. E. A. Courrier, Keyser, was elected secretary-treasurer. Dr. Flick was also named as delegate to the State Meeting at Clarksburg with Dr. Thomas Bess, Keyser, as alternate.

Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, was the guest speaker at a special meeting of the society held in the New Century Hotel in Romney on the evening of December 19. His subject was "The Evolution and Practice of Fads and Quackery in the United States." Mr. Joe W. Savage, state secretary, was also present and spoke briefly on social security.

Maryland members of the Allegheny-Garrett Medical Society were guests of the G. H. H. M. Society at this meeting but due to a sudden winter storm, few of them were able to get over the roads to Romney. However this was a most interesting and delightful banquet meeting and Dr. Fishbein's address was a real inspiration.

PAUL R. WILSON, *Secretary*.

KANAWHA MEDICAL SOCIETY

The regular monthly meeting of the Kanawha Medical Society was held at the Daniel Boone Hotel, Charleston, on the evening of December 8 with a good attendance. The guest speaker was Dr. B. P. Potter of Secaucus, New Jersey, attending physician to the Hudson County Tuberculosis Hospital and Sanitarium. His subject was "The Problem of Tuberculosis from a General Practitioner's Point of View."

Following the scientific program, the election of officers was held. Dr. Hugh B. Robins was elected president; Dr. E. A. Vaughan, Saint Albans, vice president; Dr. Claude B. Smith, secretary-treasurer, and Dr. A. E. Amick, censor.

A special meeting of the society was held at the Daniel Boone on Tuesday evening, December 15, to consider various matters pertaining to a local sickness insurance plan for low-bracket wage earners. The society also authorized the appointment of a committee to confer with WPA officials relative to the possibility of securing a new general hospital for the city.

The society was fortunate on this occasion to have present Dr. W. S. Fulton, president-elect of the State Association, who talked on the outlook of organized medicine for the coming year.

PETER A. HALEY, *Secretary.*

LEWIS COUNTY

At the last regular meeting of the Lewis County Medical Society the following officers were elected to serve during 1937:

Dr. Edward A. Trinkle, Weston, president; Dr. Aubrey F. Lawson, Weston, vice president; Dr. Theresa Snaith, Weston, secretary-treasurer; Dr. D. P. Kessler, Weston, censor.

The membership of Dr. J. E. Offner, superintendent of the Weston State Hospital, was transferred from the Marion to the Lewis County Medical Society.

THERESA SNAITH, *Secretary.*

MARION COUNTY

The tri-county meeting of the doctors from Marion, Monongalia and Harrison counties was held in Fairmont on October 26, 1936, with 65 doctors in attendance. The essayists were Dr. Daniel P. Foster and Dr. J. A. Johnston, both of the Henry Ford Hospital, Detroit, Michigan. Dr. Foster spoke on "Dietotherapy." Dr. Johnston spoke on "Cerebral Hemorrhage in the Newborn." Both papers were interesting and instructive and were well presented.

The regular meeting of the Marion County Society was held on November 23 with Dr. E. M. Spangler of Jefferson Medical School, Philadelphia, as the guest speaker. His subject was "Treatment of Eclampsia" which brought forth an interesting discussion.

Dr. Joseph S. Maxwell and Dr. Joseph D. Romino were admitted to membership at this meeting.

AMOS H. STEVENS, *Secretary.*

McDOWELL COUNTY

The regular meeting of the McDowell County Medical Society was postponed from November 11 to November 18, at which time the annual election of officers was held. Dr. R. H. Edwards was elected president; Dr. F. E. LaPrade, vice president; Dr. O. H. Fulcher, secretary; Dr. J. K. Cooper, treasurer, and Dr. H. G. Camper, censor. Dr. C. R. Hughes and Dr. C. B. Chapman were elected delegates to the state meeting at Clarksburg, with Dr. R. L. Dudney and Dr. N. H. Dyer as alternates.

The scientific paper of the evening was presented by Dr. O. H. Fulcher of Welch on the subject, "Backache Caused by Dislocation of the Intervertebral Discs; Recent Treatment for this Condition." This paper was very interesting and enjoyed by all present.

R. H. EDWARDS, *Secretary.*

MONONGALIA COUNTY

Dr. Cecil Ben Pride was elected president of the Monongalia County Medical Society at the regular monthly meeting held at the Hotel Morgan, Morgantown, on the evening of December 1. He succeeds Dr. S. F. Talbott who served during 1936. Dr. C. F. Boyers was elected vice president and Dr. G. R. Maxwell was reelected secretary for his twelfth term. Dr. L. W. Cobun was reelected treasurer and Dr. Talbott was elected to the Board of Censors.

Dr. E. F. Heiskell and Dr. R. F. Whittlesey were elected delegates to the state meeting at Clarksburg next May, with Dr. Eldon B. Tucker and Dr. J. C. Pickett as alternates.

During the remainder of the business session, Dr. Rex Burdette was elected to membership in the society. The society also voted to hold one open meeting each year to which the public would be

invited to hear a nationally known speaker on some phase of medicine of special interest to the lay public.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

The first business meeting of the Ohio County Medical Society was held on the evening of December 4, with Dr. Robert C. Armbrecht, president, presiding. A number of important business matters were discussed and the society went on record as favoring legislation for compulsory smallpox vaccination.

Dr. W. S. Fulton, president-elect of the State Association, described the relationship between the medical and administrative set-up of the Social Security Act. He urged the medical profession to cooperate in every way possible so that the control of the medical elements of this act would remain with organized medicine. This was discussed at considerable length and later a Social Security Committee was appointed, consisting of Dr. D. A. MacGregor, chairman; Dr. Russell Bond and Dr. R. J. Reed, Jr.

Other committees appointed by the society were as follows: Resolution, Dr. A. L. Jones, chairman; Dr. C. H. Clovis and Dr. Andrew Wilson; Cancer Committee, Dr. H. G. Little, chairman; Dr. W. T. McClure and Dr. C. S. Bickel; Committee on Contract and Lodge Practice, Dr. H. B. Copeland, chairman; Dr. C. H. Keesor and Dr. Arley McCoy.

Dr. M. A. Blankenhorn, Professor of Medicine at the University of Cincinnati, was the guest speaker at the December 18 meeting of the society which was held at the Ohio Valley General Hospital, Wheeling. His subject was "The Treatment of Lobar Pneumonia with Serum." Discussion was opened by Dr. C. G. McCoy, Dr. H. C. Harpfer and Dr. H. A. Sauder.

W. M. SHEPPE, *Secretary*.

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The annual business meeting of the Academy of Medicine of Parkersburg was held at the Camden-Clark Hospital on the evening of December 3, 1936, with Dr. H. H. Veon, president, presiding. A case of multiple sclerosis was very ably presented by Dr. James L. Wade. He demonstrated several of the neurologic findings characteristic of this disease and also gave a clear and concise discussion of the various stages and variations usually manifested.

A special committee then presented the following resolution which was unanimously adopted:

"The Academy of Medicine of Parkersburg wishes to inform the public that the Academy endorses the work of the Wood County Tuberculosis League and urges all to contribute such funds as they can to carry on a skin test of all school children in Wood County."

The annual reports of the treasurer and secretary were presented and adopted. Doctors J. E. Asch and E. T. Holmes of Parkersburg were elected to membership.

Following this the election of officers was held and Dr. A. R. Sidell of Williamstown was elected president. Dr. L. O. Rose, Parkersburg, was elected vice president, and Dr. B. B. Nicholson was reelected secretary-treasurer.

The secretary was instructed to secure prices on a cabinet suitable for holding the records, papers and supplies of the Academy.

A special meeting of the Academy of Medicine of Parkersburg was held at the City Hospital on the evening of December 12 to discuss the local milk situation. Dr. H. H. Veon, president, presided. It was pointed out that a number of unauthorized and misleading statements had appeared in the press regarding milk distribution and production in Wood County, thus placing the society in a position not consistent with its purpose. It was also brought out that there was not adequate personnel in the health department for the task of inspecting dairies and examining herds.

After a full discussion, the following resolution was adopted:

1. Refute all statements heretofore made by the press attributed to the Academy of Medicine.
2. Investigate the milk supply of Parkersburg as to its purity.
3. Report the findings to the Academy of Medicine and to the proper authorities.

The society also voted to instruct the secretary to notify the press that no further statements, direct or by implication, shall be published as emanating from the Academy of Medicine without being presented in writing over the signature of the president and secretary.

BERLIN B. NICHOLSON, *Secretary*.

RALEIGH COUNTY

The Raleigh County Medical Society held a dinner meeting on December 17 at the Beckley Hotel and heard Dr. Archer A. Wilson of Charleston

KANAWHA MEDICAL SOCIETY

The regular monthly meeting of the Kanawha Medical Society was held at the Daniel Boone Hotel, Charleston, on the evening of December 8 with a good attendance. The guest speaker was Dr. B. P. Potter of Secaucus, New Jersey, attending physician to the Hudson County Tuberculosis Hospital and Sanitarium. His subject was "The Problem of Tuberculosis from a General Practitioner's Point of View."

Following the scientific program, the election of officers was held. Dr. Hugh B. Robins was elected president; Dr. E. A. Vaughan, Saint Albans, vice president; Dr. Claude B. Smith, secretary-treasurer, and Dr. A. E. Amick, censor.

A special meeting of the society was held at the Daniel Boone on Tuesday evening, December 15, to consider various matters pertaining to a local sickness insurance plan for low-bracket wage earners. The society also authorized the appointment of a committee to confer with WPA officials relative to the possibility of securing a new general hospital for the city.

The society was fortunate on this occasion to have present Dr. W. S. Fulton, president-elect of the State Association, who talked on the outlook of organized medicine for the coming year.

PETER A. HALEY, *Secretary*.

LEWIS COUNTY

At the last regular meeting of the Lewis County Medical Society the following officers were elected to serve during 1937:

Dr. Edward A. Trinkle, Weston, president; Dr. Aubrey F. Lawson, Weston, vice president; Dr. Theresa Snaith, Weston, secretary-treasurer; Dr. D. P. Kessler, Weston, censor.

The membership of Dr. J. E. Offner, superintendent of the Weston State Hospital, was transferred from the Marion to the Lewis County Medical Society.

THERESA SNAITH, *Secretary*.

MARION COUNTY

The tri-county meeting of the doctors from Marion, Monongalia and Harrison counties was held in Fairmont on October 26, 1936, with 65 doctors in attendance. The essayists were Dr. Daniel P. Foster and Dr. J. A. Johnston, both of the Henry Ford Hospital, Detroit, Michigan. Dr. Foster spoke on "Dietotherapy." Dr. Johnston spoke on "Cerebral Hemorrhage in the Newborn." Both papers were interesting and instructive and were well presented.

The regular meeting of the Marion County Society was held on November 23 with Dr. E. M. Spangler of Jefferson Medical School, Philadelphia, as the guest speaker. His subject was "Treatment of Eclampsia" which brought forth an interesting discussion.

Dr. Joseph S. Maxwell and Dr. Joseph D. Romino were admitted to membership at this meeting.

AMOS H. STEVENS, *Secretary*.

McDOWELL COUNTY

The regular meeting of the McDowell County Medical Society was postponed from November 11 to November 18, at which time the annual election of officers was held. Dr. R. H. Edwards was elected president; Dr. F. E. LaPrade, vice president; Dr. O. H. Fulcher, secretary; Dr. J. K. Cooper, treasurer, and Dr. H. G. Camper, censor. Dr. C. R. Hughes and Dr. C. B. Chapman were elected delegates to the state meeting at Clarksburg, with Dr. R. L. Dudney and Dr. N. H. Dyer as alternates.

The scientific paper of the evening was presented by Dr. O. H. Fulcher of Welch on the subject, "Backache Caused by Dislocation of the Intervertebral Discs; Recent Treatment for this Condition." This paper was very interesting and enjoyed by all present.

R. H. EDWARDS, *Secretary*.

MONONGALIA COUNTY

Dr. Cecil Ben Pride was elected president of the Monongalia County Medical Society at the regular monthly meeting held at the Hotel Morgan, Morgantown, on the evening of December 1. He succeeds Dr. S. F. Talbott who served during 1936. Dr. C. F. Boyers was elected vice president and Dr. G. R. Maxwell was reelected secretary for his twelfth term. Dr. L. W. Cobun was reelected treasurer and Dr. Talbott was elected to the Board of Censors.

Dr. E. F. Heiskell and Dr. R. F. Whittlesey were elected delegates to the state meeting at Clarksburg next May, with Dr. Eldon B. Tucker and Dr. J. C. Pickett as alternates.

During the remainder of the business session, Dr. Rex Burdette was elected to membership in the society. The society also voted to hold one open meeting each year to which the public would be

invited to hear a nationally known speaker on some phase of medicine of special interest to the lay public.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

The first business meeting of the Ohio County Medical Society was held on the evening of December 4, with Dr. Robert C. Armbrecht, president, presiding. A number of important business matters were discussed and the society went on record as favoring legislation for compulsory smallpox vaccination.

Dr. W. S. Fulton, president-elect of the State Association, described the relationship between the medical and administrative set-up of the Social Security Act. He urged the medical profession to cooperate in every way possible so that the control of the medical elements of this act would remain with organized medicine. This was discussed at considerable length and later a Social Security Committee was appointed, consisting of Dr. D. A. MacGregor, chairman; Dr. Russell Bond and Dr. R. J. Reed, Jr.

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RALEIGH COUNTY

The Raleigh County Medical Society held a dinner meeting on December 17 at the Beckley Hotel and heard Dr. Archer A. Wilson of Charleston

speak on "Aspects of Certain Head Injuries." Dr. Wilson used lantern slides to demonstrate his lecture which was very interesting and instructive. There were 25 members in attendance.

Following the scientific program, the election of officers was held and Dr. L. G. Houser of Beckley was elected president for the coming year, succeeding Dr. A. G. Bowles. Dr. M. C. Banks of Raleigh was elected first vice president; Dr. R. W. Chambers, Amigo, second vice president, and Dr. L. M. Halloran, Beckley, was reelected secretary-treasurer.

Dr. D. B. Jarrell, Dr. R. G. Broaddus and Dr. E. S. Dupuy were elected on the Board of Censors. Dr. Clark Kessell and Dr. D. L. Hill were elected delegates to the state meeting at Clarksburg, with Dr. B. B. Richmond and Dr. R. C. Mitchell as alternates. Dr. J. H. Crouch of Beckley was elected to membership in the society.

L. M. HALLORAN, *Secretary.*

THYROID INACTIVITY

Excessive and perverted activity of the thyroid gland may produce such rise in basal metabolism or heat production as to make the affected individual uncomfortably hot and flushed and sweaty even in a midwinter day, declares Dr. Solomon Ginsburg in his article, "Temperature, Temperament and Thyroid," appearing in the December *Hygeia.*

Conversely, decreased activity of the thyroid may lead to such decrease in basal metabolism or heat production as to make a person abnormally sensitive to cold and make him feel the chill of winter even on a midsummer day. Such disturbances of heat production and body temperature of thyroid origin are usually associated with other well known complaints fo thyroid disorder, and their true nature is then easily recognized.

At times, however, these temperature disturbances dominate the picture and overshadow completely the other manifestations of thyroid dysfunction. When such predominant temperature disturbances occur without any apparent thyroid enlargement or other well known signs of thyroid disease, such as bulging eyes, rapid heart action, tremor of fingers or marked loss or gain in weight, their true nature and significance may be entirely overlooked.

Under the damaging influence of excessive and perverted thyroid function, the formerly lovable person now becomes irritable, restless, hyperemotional, explosive under the slightest provocation, unreasonable, quarrelsome, depressed and pessimistic.

GENERAL NEWS

COUNCIL MEETING

(Abstract of Minutes)

The Council of the West Virginia State Medical Association met in the Association headquarters, Charleston, on December 15, 1936. Dr. R. H. Walker, chairman, presided. Those present were Drs. Walker, Ralph Hogshead, G. G. Irwin, James McClung, F. E. Brammer, Roy Ben Miller, R. J. Wilkinson, W. R. Goff, W. G. Harper, B. C. John, T. M. Barber, treasurer; W. S. Fulton, president-elect; Mr. Joe W. Savage, executive secretary, and councillors-elect R. K. Buford, B. S. Brake, Welch England and R. V. Shanklin.

Following approval of the minutes of the previous meeting, the report of the executive secretary was read by Mr. Savage and accepted. Each of the councillors then reported upon the conditions and membership in their respective districts.

The following doctors, having complied with the necessary constitutional provisions, were elected to honorary life membership in the Association: Dr. S. W. Price, Scarbro; Dr. C. A. Wingerter, Wheeling; and Dr. D. C. Casto, Parkersburg.

Dr. Andrew E. Amick, Charleston, reported to the Council on the work of the joint Association committees on Infant and Maternal Welfare and outlined the plans of the two committees for the coming year.

The Council adopted a resolution calling for an appropriation by the National Congress for the purpose of indexing medical literature in the Surgeon General's library.

Dr. George Evans of Iaeger, newly elected member of the State Legislature, was introduced and spoke briefly on legislative work. Dr. Evans promised his support to the Association on any reasonable legislation that it might sponsor.

Dr. Goff discussed the possibility of holding the annual meetings of the Association in the fall of the year. This was also discussed by Dr. Fulton but no action was taken, as the dates for the 1937 meeting were already fixed.

Dr. S. M. E. Simon, Williamson, appeared before the Council and appealed from the action of the Logan County Medical Society in expelling him from membership in December, 1935. He presented his own case and Dr. Brammer defended the action of the Logan Society. The Council voted

unanimously to uphold the action of the Logan Society.

Following a discussion of the Association's 1937 legislative program, the Council voted to leave this entirely in the hands of Dr. Fulton and the Legislative Committee.

Dr. Fulton discussed the medical participation under the new West Virginia Public Assistance Act and the following statement of policy was adopted by the Council:

1. The medical profession feels that insofar as it is practicable, every patient should have the privilege of selecting his physician and hospital.

2. Patients who have no choice should be assigned in rotation to those doctors who signify their willingness to receive such assignments.

3. Every doctor should have the privilege of contributing his share to the medical care of those on the relief rolls who are ill.

4. It will be necessary for the Director of Relief to maintain twenty-four hour service in order that needed medical service may be authorized at any time.

5. Except in emergencies, patients of this class should not be given medical, surgical or hospital care unless they present authorization for the same from the office of the Director.

6. Emergency cases should be treated immediately and authorization requested within the next forty-eight hours.

7. If it is necessary to employ a consultant he should be paid the usual first visit fee.

8. A complete record of all medical services should be kept and when the occasion arises a notation in regard to criticisms or complaints coming from either the doctor or the patient should be incorporated in the record.

9. The West Virginia State Medical Association will contribute their services with the understanding that their remuneration will be only a fraction of the normal fees. The schedule of payments for services to the indigent does not constitute a precedent for any other fee schedule. It does not represent adequate compensation for services rendered but on the other hand, serves to indicate the willingness of the physicians to contribute more than their share toward a humanitarian movement.

10. In view of the fact that physicians are willing to render service for very small fees in order to reduce the cost of medical care, they feel that other agencies contributing to this work should be called upon to make minimum charges also. Arrangements should be made so as to obtain medicines at cost plus a very nominal profit. When a doctor dispenses his own medicines, there should be a modest allowance on that account.

11. The physicians doing this work should be reminded from time to time that the costs may be reduced by prescribing simple remedies from the pharmacopia rather than the more expensive proprietary medicines. Prescriptions for unusual drugs should not be filled without definite authorization.

12. Ambulatory patients should be sent to the doctor's office and thus eliminate unnecessary house calls.

13. Committees from the Medical Society are in a position to give the directors of county relief very valuable assistance in matters involving technical details or medical usage. It is suggested that the director and other interested agents have regular, scheduled conferences (perhaps once a month) with these committees.

Dr. Fulton agreed to present these Association policies to the Public Assistance Advisory Board at its January meeting and request that body to concur.

Mr. Ben Moore, Association counsel, spoke briefly upon the legal aspects of various phases of the Association's work.

CONFERENCE OF SECRETARIES

The annual conference of secretaries of component county medical societies of the Association will be held at the Association headquarters in the Public Library Building, Charleston, beginning at 10 o'clock on Tuesday morning, January 12, 1937. All county secretaries are expected to be present for the conference and are urged to bring their newly-elected society presidents along with them. The secretaries voted unanimously at their conference last year to invite the presidents to attend.

While the complete program was not yet finished at the time of this writing, acceptance has been received from most of the speakers. Among the important topics that will be discussed will be Social Security, Legislation, Infant and Maternal Welfare and County Society Management from the Secretarial viewpoint.

Those who will lead in the various discussions will be Dr. W. F. Fulton, Association president; Dr. B. H. Swint, chairman of the Association Advisory Committee on Social Security; Dr. Berlin B. Nicholson, secretary of the Academy of Medicine of Parkersburg; Senator Albert G. Matthews

and Mr. Ralph Hartman of the Workmans' Compensation Department and Dr. Thomas Blake of the Division of Maternal and Child Hygiene of the State Health Department.

INFANT-MATERNAL WELFARE

A joint meeting of the Association Committees on Infant and Maternal Welfare was held in Charleston on December 14, 1936. Dr. James R. Bloss, chairman of the Maternal Welfare Committee, presided. Those present were Dr. Bloss, Dr. Andrew E. Amick, chairman of the Infant Welfare Committee; Dr. E. J. Humphrey, Huntington; Dr. W. E. Hoffman, Charleston; Dr. H. G. Steele, Bluefield; Dr. Raymond Sloan, Huntington; Dr. A. A. Shawkey, Charleston; Dr. H. R. Connell, Bluefield; Dr. Theresa Snaith, Weston; Dr. N. H. Baker, dental representative; Dr. T. H. Blake, director of Maternal and Child Hygiene of the State Health Department, and Mr. Joe W. Savage, state secretary.

One of the features of the meeting was the report of Dr. Amick on the activities of his committee since its formation last June. Dr. Amick reported that pre-school health conferences had been held in 44 counties, that a total of 379 doctors attended the postgraduate conferences for physicians, and that Association members appeared before teacher institutes in thirty-one counties.

The joint committee went on record as favoring compulsory smallpox vaccination in West Virginia. The committee also favored minimum requirements for health officers and felt that candidates for health positions should have at least four and one-half months special training in public health work and should be under 35 years of age. It was felt that such regulations would help to remove the appointment of health officers from political consideration.

In connection with the committees plans for well baby clinics to be conducted in 1937, the following policies were adopted:

The county health officer or county health nurse shall be responsible for organizing and conducting well baby clinics, but the actual examinations shall be made by physicians in private practice.

No clinic is to be organized in towns of 10,000 population or over due to the fact that this is a rural program.

These clinics are to be held regularly once a month on the same day and in the same place.

It is wise and ethical that the local medical society endorse these clinics and understand their purpose.

The support and cooperation of the local physicians must be obtained.

The purpose of the clinics is to keep well babies and not to care for ill children.

These clinics must not be held in a private physicians office, but should be held in the health office, school, church, hospital or like places.

The clinics shall run for approximately two hours and until additional funds are available, the honorarium to private physicians conducting the clinics shall be five dollars.

Where there are several physicians who offer and want to assist in the clinics their services shall be rotated.

Every child found to have any disease or illness shall be referred to their family physician and not permitted to return to the clinic until well. Absolutely no treatment shall be given for any illness.

CLINIC AT JOHNS HOPKINS

Dr. Harry G. Steele of Bluefield, W. Va., is again negotiating a clinic at Johns Hopkins, Church Home and the University of Maryland at Baltimore. This clinic will be personally conducted by Dr. Steele sometime in February or March for the members of the West Virginia Obstetrical and Gynecological Society and any other members of the West Virginia State Medical Association who are interested in obstetrics and gynecology.

This same clinic was arranged for and conducted by Dr. Steele last year and was very successful from all standpoints. The enthusiasm of those doctors who attended the clinic last year will undoubtedly draw a much larger group this year.

Doctors who are interested in attending this clinic are urged to get in touch with Dr. Steele immediately.

MOTTLED ENAMEL

Mottled enamel, or endemic fluorosis, will develop in the teeth of an adult only if he was exposed to the causative agent for a rather extended period of time before he was five or six years old. It is a childhood affliction, the effects of which are seen most often in adult life, M. A. Pond states in his article, "Mottled Enamel," in the December *Hygeia.*

CHECK-UP ON BIRTHS

In an effort to check on failures to report births and deaths, the Division of Vital Statistics of the State Health Department has secured the services of two field agents, John C. Condry and L. A. Casto. Although complete registration of births and deaths has always been of great importance, even greater emphasis is placed on it with the enactment of the Social Security Act which requires applicants to have birth certificates before they are eligible for old age pensions.

By checking the records of infant deaths at the State Health Department and by other means, certain births have been found reported only on death certificates, no birth certificate having been filed with the director of Vital Statistics. The law regarding birth registration requires that all births, regardless of whether the baby is stillborn or not, shall be registered with the Division of Vital Statistics. The field agents will begin their work by endeavoring to obtain these omitted birth certificates as well as to find out who was responsible for the failure to register them at the proper time. Negligence in reporting deaths promptly will also be investigated by the agents.

The value and need for vital statistics records have already been recognized though it was not until 1921 that an adequate law was passed by the legislature and provision made for the collecting, filing and recording of births, deaths and marriages. Birth certificates prove parentage, right of inheritance, legal dependency, right to enter school, right to vote, to marry, to secure social security benefits, to obtain passports, establish citizenship and other things. Persons lacking birth certificates often have to secure affidavits from the doctors who officiated at their births, or the affidavits of three persons who were present at the time of their births in order to prove the fact of their birth. Frequently this is impossible.

The law provides a penalty for any physician, midwife or other person attending a birth refusing or neglecting to file a complete birth certificate within ten days. The moral obligation of physicians is not discharged until proper registration of births attended is made.

The field agents so far as possible will make the acquaintance of the local registrars and endeavor to give them as well as the physicians whatever advice and assistance they are able in regard to their problems.

GOITER STUDY AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of $300.00 and two honorable mentions for the best essays submitted concerning experimental and clinical investigations relative to the thyroid gland. This award will be made at the discretion of the Society at its next annual meeting to be held in Detroit, Michigan, June 14, 15, and 16.

The competing manuscripts, which should not exceed 3000 words in length, must be presented in English and a typewritten double spaced copy sent to the Corresponding Secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than April 1, 1937. Manuscripts received after this date will be held for competition the following year or returned at the author's request.

The committee who will review the manuscripts is composed of men well known in the fields of research and clinical investigation of problems related to the thyroid gland. At the last annual meeting of the Society, the Award for the year 1936 was presented to Dr. Edward Uhlenhuth, University of Maryland Medical School, Baltimore, Maryland, in appreciation of his manuscript entitled "Isolation of the Thyreoactivator Hormone from the Anterior Lobe of the Bovine Pituitary Gland." The committee also awarded honorable mention to Dr. E. Cowles Andrus and Dr. Donald McEachern, Johns Hopkins University and Hospital, Baltimore, Maryland, for their manuscript entitled "On the Nature of the Increased Metabolism in Hyperthyroidism."

FEVER THERAPY CONGRESS

The first International Conference on Fever Therapy will hold its sessions on March 29, 30, and 31, 1937, at the College of Physicians and Surgeons, Columbia University, New York City. The first day will be devoted to the discussion of physiology, pathology, and methods of production of fever. Dr. Frank W. Hartman, Henry Ford Hospital, Detroit, Michigan, is chairman of the committee arranging this section of the program, and Dr. Charles A. Doan of Ohio State University is secretary.

The second day is to be spent in the consideration of miscellaneous diseases treated by fever, such as chorea, rheumatic carditis, ocular diseases, arthritis, leprosy, meningococcus infections, undulant

fever, tuberculosis, tumors, skin diseases, etc. This session will be arranged by Dr. Clarence A. Neymann, 104 South Michigan Boulevard, Chicago, Illinois, with the assistance of Dr. Frank H. Krusen, Mayo Clinic, Rochester, Minnesota, as secretary.

The morning of the third day is to be devoted to the consideration of syphilis. Dr. Walter M. Simpson, Miami Valley Hospital, Dayton, Ohio, is chairman of this section, which has as its secretary Dr. Leland E. Hinsie, New York State Psychiatric Institute, New York City. In the afternoon of the same day, the treatment of gonorrhea by fever is to be discussed under the chairmanship of Dr. Stafford L. Warren, Strong Memorial Hospital, University of Rochester, Rochester, New York. The secretary of this committee is Dr. Charles M. Carpenter, Rochester, New York.

Those desiring to participate are requested to communicate with the chairman of the section in which they are interested. The manuscripts of all papers must be submitted to the appropriate chairman before February 1, 1937. Selection for the program will be made by February 15.

Baron Henri de Rothschild of Paris is general chairman of the International Conference on Fever Therapy. Dr. Walter M. Simpson, Dayton, Ohio, is chairman of the American committee.

All who plan to attend the Conference are urged to register promptly with the general secretary, Dr. William Bierman, 471 Park Avenue, New York City. The registration fee is $15.00.

CANCER FIELD ARMY

Advice was sought recently from "fifty physicians and surgeons throughout the country" by the American Society for the Control of Cancer on how its Women's Field Army might best "dislodge the five key psychological logs at the center of the general dam that blocks efforts to control cancer through education." A letter to the doctors was signed by Dr. C. C. Little, managing director of the American Society for the Control of Cancer.

The "five psychological logs", the Society said, were:

"1. The blind fear and disgust that many still feel towards cancer and any discussion of it.

"2. The widespread belief that cancer is incurable.

"3. The feeling that cancer education causes cancerphobias, that the hurt done to nervous and neurotic people outweighs the good done through lives saved.

"4. The despairing conviction that even many intelligent people have that if a parent dies of cancer, so will they.

"5. The faith in quacks and bottled 'cures' and other fake nostrums. Accompanying this faith is a resentment against the medical profession for exposing quacks and get-well-quick crooks."

The program of the Women's Field Army, Dr. Little said, is being conducted under the supervision of the medical profession. This is the first national drive to control cancer through educating the laity. In thirty states, where the Field Army will be active this year, the women will do the organization work and members of the Cancer Committees of the State Medical Societies will present the educational matter.

"Here is the problem in brief," the letter said, "each year upwards of 140,000 persons die of cancer. Dr. Louis I. Dublin of the Metropolitan Life Insurance Company estimates that 500,000 persons now living have the disease. Too few of these receive any treatment. Deaths from cancer are said to cost the families of America $900,000,000 annually.

"The purpose of our educational campaign is to teach the importance of seeking medical aid when the cancer symptoms first appear. We want to do this by spreading the encouraging message that perhaps half of those who die each year might be saved if they knew a few simple facts about cancer and acted on their knowledge. We do not want a "fear campaign" based on the threat that the bogeyman, cancer, will get you if you don't watch out.

"It is our thought that you, who have had years of experience in treating and healing patients, can give us invaluable suggestions on how to dislodge the five key psychological logs at the center of the general dam that blocks efforts to control cancer through education."

Under the slogan "Early Cancer Is Curable. Fight It With Knowledge", the Women's Field Army expects to enroll more than 300,000 women during its Enlistment Week, March 21-27, 1937. Heading the Field Army are Mrs. Grace Morrison Poole as chief advisor and Mrs. Marjorie B. Illig as field representative. Mrs. Poole is past president of the General Federation of Women's Clubs and Dean of Stoneleigh College at Rye Beach, New Hampshire. Mrs. Illig of Onset, Massachusetts, is

chairman of the National Health Division of the General Federation of Women's Clubs. Outstanding women have been appointed as state commanders, vice commanders, captains, and lieutenants, in some 30 states, according to Dr. Little.

The American Society for the Control of Cancer was formed in 1913 by representatives of ten medical organizations interested in cancer and by a number of distinguished cancer specialists. Its purpose is "to disseminate knowledge concerning symptoms, diagnosis, treatment and prevention of cancer, to investigate the conditions under which cancer is found and to compile statistics in regard thereto." It was incorporated in 1922. With four physicians as field representatives covering the country, it has devoted its energies in the past mainly to cooperating with the medical profession.

CORRECTION

Through an error in our December issue, The National Drug Company SCARLET FEVER TOXIN advertisement was printed on page xi as Scarlet Fever Toxoid.

Scarlet Fever Toxoid is not at this time approved by the Scarlet Fever Committee, Inc., which administers the patient issued to George F. and Gladys H. Dick, so every doctor will understand that the error in using the word Toxoid instead of Toxin in the advertisement was a typographical error.

The National Drug Company prepare two Toxoids (detoxified toxins) Diphtheria Toxoid and Tetanus Toxoid.

Scarlet Fever Antitoxin (National) is available in 2000 units (one-half cc.) for prophylaxis and 6000 units (one and one-half cc.) for therapeutic dose.

WINTER DANGERS

Most people know one thing about frostbite, and that one thing is wrong. Ask any one what he would do if a companion were frostbitten, and he will immediately say, "Rub the parts affected with snow." Because of this prevalent misconception, Dr. Edward F. Hartung has written an article on the topic, "Frostbite," and it is included in the December issue of *Hygeia.*

Such a barbarous procedure as rubbing on snow is unheard of in the arctic regions, the author says, although it is still taught in some courses in first aid. Cold snow is gritty and in cities, very dirty, and would, when rubbed into the frostbitten skin, scratch and injure it.

The correct treatment consists in gradually warming the part, avoiding too rapid warming and violent friction. After this the frostbitten area may be wrapped in cotton wool. If the skin has been broken a sterile dressing must be applied because the frostbitten areas are highly susceptible to infection.

The results of frostbite depend on the severity and length of exposure to cold and on the treatment given. A mild frostbite properly treated may never be heard from again; but if it is severe the condition called chilblain, or pernio, may result. For years following the frostbite the victim may feel a sensation of tingling, "pins and needles," and pain in the area that has been involved, every time he enters a warm room in winter.

These chilblain areas should be carefully protected from cold because they are more susceptible to frostbite than is healthy skin. The affected skin may easily ulcerate.

WOMAN'S AUXILIARY

KANAWHA COUNTY

The Auxiliary to the Kanawha Medical Society met at the home of Mrs. W. A. McMillan on Virginia Street, Charleston, on November 10, 1936. Mrs. Robert Price presided. Twenty-eight members were present.

Dr. M. F. Petersen was the principal speaker. His subject was "Doctor's Hobbies." This was of much interest to the Auxiliary due to the exhibit with the same title which has been planned for the 1937 convention of the Auxiliary and Medical Association in Clarksburg.

The December meeting will be held at the Y. W. C. A. on the eighth.

MRS. CLAUDE B. SMITH, *Secretary.*

LOGAN COUNTY

The Logan Auxiliary met at the home of Mrs. J. W. Lyons at Holden, W. Va., for luncheon and bridge on December 1, 1936. Eighteen members were present. The meeting was a purely social one for the purpose of obtaining as members, doctor's wives who had not yet joined the Auxiliary and to encourage old members who had not been attending meetings. One new member and two old members attended the meeting.

The next meeting of the Auxiliary will be held on January 5, 1937.

Dr. and Mrs. V. A. Deason of Logan announce the birth of a son, November 26, 1936.

MRS. WALTER E. BREWER, *Secretary.*

McDOWELL COUNTY

The Woman's Auxiliary to the McDowell County Medical Society met on December 2, 1936 at the Appalachian Club Rooms, Welch, W. Va. Mrs. J. Howard Anderson presided over the meeting. Eleven old members and three new members attended. The new members are Mrs. R. H. Edwards, Mrs. Arnold Wilson and Mrs. L. L. Whitney.

The program was devoted almost entirely to a discussion of *Hygeia,* methods of obtaining subscriptions, use of *Hygeia* articles in school health programs, etc. The secretary was requested to send cards to principals of all schools receiving *Hygeia* through the Auxiliary, asking them to use *Hygeia* in all health programs and for health literature.

During the business session a favorable vote was given to the donation of $10.00 to Red Cross and Salvation Army each, and also to a Christmas gift of $10.00 for an ex-member who served very efficiently while an active member.

The Auxiliary will meet on the second Wednesday in January at the above mentioned place. Mrs. L. R. Dudney, Mrs. H. G. Camper and Mrs. J. L. Sameth will act as hostesses.

MRS. H. P. EVANS, *Secretary.*

PARKERSBURG ACADEMY

The Auxiliary to the Parkersburg Academy of Medicine met on December 8, at the home of Mrs. Morgan Dearman in Parkersburg. Mrs. Arthur Knott presided. Twenty-five members were present.

Mrs. S. M. Prunty, past president of the State Auxiliary, spoke on the subject of *"Hygeia,"* the health magazine of the A. M. A. Six subscriptions to *Hygeia* were given to the Parkersburg schools last month.

Every Tuesday the Auxiliary meets and prepares dressings and does mending for the Parkersburg hospitals.

The next meeting will be held on the second Tuesday in January at the "Southern."

The Auxiliary to the Parkersburg Academy of Medicine met on the second Tuesday in November at the Y. W. C. A. Mrs. Arthur Knott presided over the twenty-seven members present.

Mrs. A. H. Stevens, state president of the Auxiliary, was present at the meeting and spoke to the Auxiliary on the aims and ambitions of the Auxiliary during the present administration.

Mrs. S. M. Prunty, past president of the Auxiliary, spoke to the group on the subject of "Health Education."

Following a social hour the meeting adjourned until the second Tuesday in December.

MRS. BEN ROBINSON, *Secretary.*

ACTIVE AND HONORARY MEMBERSHIP

WEST VIRGINIA STATE MEDICAL ASSOCIATION

(Editor's Note—Below will be found the names of all active and honorary members in good standing in their respective county societies. The asterik (*) appearing before a name indicates honorary membership. From this type will be published the annual Association directory of members. Will each member please check his own name and address and notify the Journal at once if any error is made.

BARBOUR-RANDOLPH-TUCKER

H. H. Bolton.....Pierce
D. T. Bond.....Norton
A. P. Butt, Jr.....Elkins
R. J. Condry.....Elkins
A. M. Fredlock.....Elkins
B. I. Golden.....Elkins
R. P. Good.....Galloway
T. M. Goodwin.....Elkins
C. H. Hall.....Elkins
W. G. Harper.....Elkins
F. S. Holsberry.....Parsons
W. M. Junkin.....Elkins
W. W. Kerr.....Volga
L. S. King.....Philippi
B. L. Liggett.....Mill Creek
G. H. Michael.....Belington
J. H. Miller.....New York City
J. L. Miller.....Thomas
W. L. Miller.....Bemis
S. G. Moore.....Elkins
E. E. Myers.....Philippi
H. C. Myers.....Philippi
K. J. Myers.....Philippi
S. J. Skar.....Davis
W. S. Smith.....Philippi
C. G. Stroud.....Brownton
S. Weisman.....Parsons
W. E. Whiteside.....Parsons
C. B. Williams.....Philippi
R. S. Wolfe.....Elkins
J. L. Woodford.....Philippi
T. L. Woodford.....Junior
*J. L. Bosworth.....Mill Creek
*E. M. Hamilton.....Belington
*H. K. Owens.....Elkins
*O. L. Perry.....Elkins
*A. H. Woodford.....Belington

BOONE SOCIETY

W. L. Barbour.....Whitesville
H. A. Carney.....Van
A. E. Glover.....Van
W. F. Harless.....Madison
H. H. Howell.....Madison
R. L. Hunter.....Madison
C. E. Lewis.....Nellis
D. F. Pauley.....Jeffrey
F. G. Prather.....Barrett
W. V. Wilkerson.....Highcoal

BROOKE SOCIETY

L. J. Bernstein.....Wellsburg
W. T. Booher.....Wellsburg
F. T. Dare.....Wellsburg
H. L. Hegner.....Wellsburg
Leo Huth.....Follansbee

F. L. Matson.....Wellsburg
J. A. McCurdy.....Warwood
Ralph McGraw.....Follansbee
J. P. McMullen.....Wellsburg
C. R. Megahan.....Follansbee
R. C. Otte.....Wellsburg
W. L. Simpson.....Wellsburg
*B. F. Harden.....Wellsburg

CABELL SOCIETY

J. H. Baber.....Huntington
J. F. Barker.....Huntington
H. E. Beard.....Huntington
W. F. Beckner.....Huntington
O. B. Biern.....Huntington
J. R. Bloss.....Huntington
R. M. Bobbitt.....Huntington
W. D. Bourn.....Barboursville
J. R. Brandabur.....Huntington
B. F. Brown.....Huntington
F. A. Brown.....Huntington
J. R. Brown.....Huntington
W. F. Bruns.....Ceredo
V. L. Chambers.....Huntington
Leo Christian.....Huntington
A. W. Crews.....Huntington
D. J. Cronin.....Huntington
R. H. Curry.....Barboursville
W. F. Daniels.....Huntington
C. S. Duncan.....Huntington
F. F. Farnsworth.....Milton
J. W. Ferguson.....Kenova
C. P. S. Ford.....Huntington
B. D. Garrett.....Kenova
E. B. Gerlach.....Huntington
T. N. Goff.....Kenova
W. O. Grimm.....Huntington
J. A. Guthrie.....Huntington
O. L. Hamilton.....Huntington
J. C. Hardman.....Huntington
Richard Hardwick.....Huntington
I. R. Harwood.....Huntington
H. D. Hatfield.....Huntington
C. M. Hawes.....Huntington
Douglas Hayman.....Huntington
L. S. Henley.....Huntington
W. D. Hereford.....Huntington
I. C. Hicks.....Huntington
I. I. Hirschman.....Huntington
F. C. Hodges.....Huntington
F. J. Hoitash.....Huntington
J. E. Hubbard.....Huntington
E. J. Humphrey.....Huntington
R. T. Humphries.....Huntington
W. B. Hunter.....Huntington
G. D. Johnson.....Huntington
A. S. Jones.....Huntington
A. T. Jordon.....Winfield
W. C. Kappes.....Huntington
J. R. Keesee.....Huntington
A. D. Kessler.....Huntington
A. K. Kessler.....Huntington
J. S. Klumpp.....Huntington
W. M. Lewis.....Huntington
H. V. Lusher.....Huntington
A. R. Lutz.....Huntington
G. M. Lyon.....Huntington
A. R. MacKenzie.....Huntington
F. O. Marple.....Huntington
H. B. Martin.....Huntington
W. B. Martin.....Huntington
J. C. Matthews.....Huntington
Hallock Moore.....Huntington
M. B. Moore.....Huntington
T. W. Moore.....Huntington
W. E. Neal.....Huntington
W. J. Parsons.....Huntington
C. H. Plymale.....Huntington
Bruce Pollock.....Pt. Pleasant
K. C. Prichard.....Huntington
M. C. Prichard.....Milton
G. A. Ratcliff.....Huntington
C. O. Reynolds.....Huntington
L. C. Richmond.....Milton
J. W. Rife.....Kenova
J. H. Robinson.....Huntington
E. E. Rose.....Huntington
W. N. Rowley.....Huntington
F. X. Schuller.....Huntington
F. A. Scott.....Huntington
E. E. Shafer.....Huntington
R. M. Sloan.....Huntington
J. H. Steenbergen.....Huntington
Roscoe Stotts.....Kenova
W. W. Strange.....Huntington
W. C. Swann.....Huntington
C. T. Taylor.....Huntington
I. W. Taylor.....Huntington
W. C. Thomas.....Huntington
R. S. Van Meter.....Huntington
W. E. Vest.....Huntington
G. W. Walden.....West Hamlin
R. J. Wilkinson.....Huntington
C. G. Willis.....Huntington
C. B. Wright.....Huntington
R. M. Wylie.....Huntington

CENTRAL W. VA. SOCIETY

S. P. Allen.....Webster Springs
A. B. Bowyer.....Buckhannon
E. S. Brown.....Summersville
F. H. Brown.....Summersville
H. S. Brown.....Sutton
J. D. Brown.....Wendel
C. C. Carson.....Gassaway
J. M. Cofer.....Bergoo
L. W. Deeds.....Buckhannon
F. H. Dobbs.....Jerryville
J. B. Dodrill.....Webster Springs
Hugh Dunn.....Richwood
J. C. Eakle.....Sutton
O. O. Eakle.....Sutton
J. E. Echols.....Richwood
W. E. Echols.....Richwood
Paul Gageby.....Richwood
G. D. Hill.....Tioga
L. O. Hill.....Camden-on-Gauley
E. H. Hunter.....Webster Springs
Henrietta Marquis.....Richwood
J. N. Marquis.....Richwood
James McClung.....Richwood
M. T. Morrison.....Sutton
William Nelson.....Richwood
B. L. Page.....Buckhannon
L. W. Page.....Buckhannon
J. A. Rusmisell.....Buckhannon
H. O. Van Tromp.....Weston
*Fleming Howell.....Buckhannon
*W. H. McCauley.....Sutton
*J. L. Pifer.....Buckhannon
*Everett Walker.....Adrian

DODDRIDGE SOCIETY

Homer Freepoint.....Centerpoint
A. M. McGovern.....West Union
A. Poole.....West Union
E. T. Wetzel.....West Union

EASTERN PANHANDLE SOCIETY

A. O. Albin.....Charles Town
A. W. Armentrout.....Martinsburg
E. H. Bitner.....Martinsburg
Edwin Cameron.....Martinsburg
R. E. Clapham.....Martinsburg
A. B. Eagle.....Martinsburg
L. W. Frame.....Bolivar
V. L. Glover.....Martinsburg
J. K. Guthrie.....Martinsburg
N. B. Hendrix.....Martinsburg
C. C. Johnson.....Harpers Ferry
G. O. Martin.....Martinsburg
Elizabeth McFetridge....Shepherdstown
G. P. Morison.....Charles Town
T. K. Oates.....Martinsburg
M. H. Porterfield.....Martinsburg
C. G. Power.....Martinsburg
R. K. Shirley.....Hedgesville
G. J. E. Sponseller.....Martinsburg
R. B. Talbott.....Martinsburg
W. A. Wallace.....Martinsburg
Halvard Wanger.....Shepherdstown

FAYETTE SOCIETY

A. E. Bays.....Longacre
F. W. Bilger.....Maybeury
W. P. Bittinger.....Summerlee
B. F. Brugh.....Montgomery
W. E. Bundy.....Minden
N. L. Cardey.....Winona
G. O. Crank.....Lawton
Gilbert Daniel.....Gauley Bridge
T. B. Daugherty.....Fayetteville
George Fordham.....Powellton
Claude Frazier.....Montgomery
F. S. Harkleroad.....Harvey
L. R. Harless.....Gauley Bridge
G. G. Hodges.....Kilsythe
Ralph Hogshead.....Montgomery
L. I. Hoke.....Layland
A. L. Hunter.....Pax
C. C. Jackson.....East Rainelle
Harold Jones.....Montgomery
W. R. Laird.....Montgomery
H. C. Martin.....Rainelle
C. G. Merriam.....Beard's Fork
M. A. Moore.....Kingston
P. E. Prillaman.....Oak Hill
B. F. Puckett.....Oak Hill
J. N. Reeves.....McKendree
C. M. Scott.....Alloy
W. D. Simmons.....Glen Ferris
H. C. Skaggs.....Montgomery
G. A. Smith.....Montgomery
E. B. Thompson.....Montgomery
H. F. Troutman.....Page
R. A. Updike.....Montgomery
*O. J. Henderson.....Montgomery
*S. W. Price.....Scarbro
*J. S. Shaffer.....Montgomery
*D. W. Shirkey.....Montgomery
*H. A. Walkup.....Mount Hope

G. H. H. M. SOCIETY

P. E. Berry, Jr.....Piedmont
Robert Bess.....Piedmont
Thomas Bess.....Keyser
O. V. Brooks.....Moorefield
E. A. Courrier.....Keyser
W. G. Drinkwater.....Gormania
V. L. Dyer.....Petersburg
J. F. Easton.....Romney
A. K. Fidler.....Elkins
W. A. Flick.....Keyser
T. C. Giffin.....Keyser
G. S. Gochenour.....Moorefield
J. B. Grove.....Petersburg
W. T. Highberger.....Maysville
R. W. Love.....Moorefield
M. H. Maxwell.....Keyser

O. F. Mitchell.....Franklin
Glenn Moomau.....Petersburg
B. F. Moyers.....Mathias
J. A. Moyers.....Franklin
J. N. Reeves.....Piedmont
Raymond Reeves.....Piedmont
H. W. Rollings.....Wardinsville
R. R. Sisson.....Blaine
P. R. Wilson.....Piedmont
J. H. Wolverton.....Piedmont
M. F. Wright.....Burlington

GREENBRIER VALLEY SOCIETY

O. P. Argabrite.....Alderson
R. E. Baer.....White Sulphur Springs
J. M. Brown.....Alderson
R. C. Cecil.....Rainelle
J. W. Compton.....Ronceverte
J. R. Crawley.....Anjean
A. D. Ferrell.....Ronceverte
T. L. Gilchrist.....Pickaway
H. L. Goodman.....Ronceverte
H. D. Gunning.....Ronceverte
K. J. Hamrick.....Marlinton
Guy Hinsdale....White Sulphur Springs
E. W. Hoylman.....Dorr
E. G. Kesler.....Williamsburg
H. L. Kirkpatrick.....Marfrance
A. G. Lanham.....Ronceverte
J. G. Leech.....Quinwood
C. W. Lemon.....Lewisburg
C. F. Mahood.....Alderson
E. W. McCauley.....Rainelle
S. A. McFerrin.....Renick
W. E. Myles.....White Sulphur Springs
D. G. Preston.....Lewisburg
N. R. Price.....Marlinton
F. H. Randall.....Boga Raton, Fla.
J. R. Richardson.....Union
H. C. Solter.....Marlinton
L. B. Todd.....Quinwood
Edda Von Bose.....Alderson
C. I. Wall.....Rainelle
*J. W. De Vebre.....Ronceverte

HANCOCK SOCIETY

Samuel Beradelli.....Weirton
M. Bogarad.....Weirton
T. E. Cato.....New Cumberland
G. H. Davis.....Weirton
J. E. Fisher.....New Cumberland
I. Levendorf.....Weirton
A. E. McClue.....Charleston
C. Moraitis.....Weirton
M. H. Powers.....Weirton
J. E. Richmond.....Weirton
George Rigas.....Weirton
A. B. Rinehart.....Weirton
L. O. Schwartz.....Weirton
C. A. Shafer.....Chester
J. L. Thompson.....Weirton
L. A. Whitaker.....Weirton
Milton Wolpert.....Chester
Anthony Yurko.....Weirton

HARRISON SOCIETY

B. S. Brake.....Clarksburg
J. T. Brennan.....Clarksburg
J. R. Carder.....Clarksburg
F. C. Chandler.....Bridgeport
S. L. Cherry.....Clarksburg
R. S. Coffindaffer.....Shinnston
I. D. Cole.....Clarksburg
D. P. Cruikshank.....Lumberport
Edward Davis.....Salem
W. M. Davis.....Bridgeport
H. H. Esker.....Clarksburg
G. F. Evans.....Clarksburg
C. F. Fisher.....Clarksburg
Earl N. Flowers.....Clarksburg
Thomas Gocke.....Clarksburg
W. T. Gocke.....Clarksburg
L. C. Goff.....Clarksburg
C. C. Greer.....Clarksburg
T. G. Harris.....West Milford
H. H. Haynes.....Clarksburg
R. C. Hood.....Washington, D. C.
Kenna Jackson.....Clarksburg
C. C. Jarvis.....Clarksburg
J. R. Johnson.....Shinnston
A. O. Kelley.....Wallace
A. J. Kemper.....Lost Creek
O. W. Ladwig.....Wilsonburg
F. V. Langfitt.....Clarksburg
R. B. Linger.....Clarksburg
R. V. Lynch.....Meadowbrook
J. S. Maloy.....Shinnston
J. P. McGuire.....Clarksburg
R. B. Nutter.....Enterprise
R. J. Nutter.....Clarksburg
C. R. Ogden.....Clarksburg
R. L. Osborn.....Clarksburg
W. T. Owens.....Clarksburg
J. E. Page.....Clarksburg
E. Pendleton.....Clarksburg
A. T. Post.....Clarksburg
C. O. Post.....Clarksburg
S. H. Post.....Volga
James Ralston.....Clarksburg
James Repass.....Lumberport
W. H. Riheldaffer.....Lost Creek
R. M. Riley.....Nutter Fort
H. A. Rosenthal.....Clarksburg
C. N. Slater.....Clarksburg
H. E. Sloan.....Clarksburg
W. W. Spelsburg.....Clarksburg
J. E. Stephenson.....Clarksburg
W. L. Strother.....Salem
E. D. Tucker.....Nutter Fort
E. F. Wehner.....Clarksburg
H. A. Whisler.....Clarksburg
B. W. Wilkinson.....Clarksburg
J. F. Williams.....Clarksburg
E. A. Wilson.....Salem
J. E. Wilson.....Clarksburg
E. S. Wornal.....Shinnston
E. B. Wright.....Clarksburg
*A. O. Flowers.....Clarksburg
*E. Newton Flowers.....Clarksburg
*John Folk.....Bridgeport
*William Gaston.....Clarksburg
*E. A. Hill.....Clarksburg
*T. M. Hood.....Clarksburg

KANAWHA SOCIETY

A. E. Amick.....Charleston
A. L. Amick.....Charleston
Maury Anderson.....Dunbar
R. L. Anderson.....Charleston
H. W. Angell.....Charleston
O. L. Aultz.....Charleston
H. A. Bailey.....Charleston
H. E. Baldock.....Charleston
J. Bankhead Banks.....Charleston
D. N. Barber.....Charleston
T. M. Barber.....Charleston
W. L. Barbour.....Whitesville
G. H. Barksdale.....Charleston
J. S. P. Beck.....Charleston
S. L. Bivens.....Charleston
W. P. Black.....Charleston
T. H. Blake.....Charleston
O. H. Bobbitt.....Charleston
M. L. Bonar.....Charleston
A. S. Brady, Jr.....Charleston
R. J. Brown.....Charleston
I. E. Buff.....Charleston
R. K. Buford.....Charleston
J. E. Cannaday.....Charleston
G. B. Capito.....Charleston
H. A. Carney.....Van
T. J. Casto.....Charleston
Preston Champe.....Charleston
V. T. Churchman.....Charleston
V. T. Churchman, Jr.....Charleston
F. A. Clark.....Charleston
W. L. Cooke.....Charleston
C. E. Copeland.....Charleston
E. A. Davis.....Charleston
D. A. Dent.....Charleston
R. M. Dodson.....Huntington
J. W. Duff.....Charleston
M. S. Duling.....Charleston
J. L. Dunlap.....Bancroft
R. H. Dunn.....South Charleston
F. L. Erwin.....Burnwell
H. M. Escue.....St. Albans
H. H. Fisher.....Charleston
C. M. Fleshman.....Clendenin
R. I. Frame.....Sharples
J. W. Frazier.....Charleston
McLeod Gillies.....Charleston
A. J. Given.....Rensford
H. R. Glass.....Charleston
W. J. Glass.....Sissonsville
A. E. Glover.....Van
P. L. Gordon.....Charleston
Fred Gott.....Charleston
G. F. Grisinger.....Charleston
P. A. Haley, II.....Charleston
R. O. Halloran.....Charleston
R. E. Hamrick.....Charleston
R. S. Hamrick.....St. Albans
J. H. Hansford.....Pratt
W. F. Harless.....Madison
O. M. Harper.....Swandale
E. R. Hays.....Chelyan
E. B. Henson.....Charleston
D. H. Hill.....Charleston
W. E. Hoffman.....Charleston
V. E. Holcombe.....Charleston
H. H. Howell.....Madison
A. P. Hudgins.....Charleston
W. R. Hughey.....Charleston
J. Ross Hunter.....Charleston
T. H. Hutchinson.....Olcott
R. A. Ireland.....Charleston
G. G. Irwin.....Charleston
L. A. Jarrett.....Dunbar
E. V. Jordan.....Charleston
Ray Kessel.....Charleston
Russel Kessel.....Charleston
H. D. Law.....Charleston
C. E. Lewis.....Nellis
J. P. Lilly.....Charleston
E. A. Litzinger.....Charleston
R. R. Louft.....Charleston
V. E. Mace.....Charleston
C. B. Marshall.....Nitro
U. G. McClure.....Charleston
W. A. McMillan.....Charleston
W. O. McMillan.....Charleston
H. D. McPherson.....Eskdale
M. I. Mendeloff.....Charleston
H. W. Merideth.....Carbon
A. W. Milhoan.....Nitro
J. W. Moore.....Charleston
L. H. Mynes.....Charleston
G. P. Naum.....Ward
J. A. Newcome.....Prenter

J. T. Nolen.....Poca
R. O. O'Dell.....South Charleston
E. W. Owen.....Spencer
M. F. Petersen.....Charleston
V. L. Peterson.....Charleston
S. H. Phillips.....Charleston
W. W. Point.....Charleston
W. C. Polsue.....Charleston
F. G. Prather.....Barrett
Phillip Preiser.....Charleston
B. S. Preston.....Charleston
A. M. Price.....Charleston
R. B. Price.....Charleston
C. A. Ray.....Charleston
Roy Ray.....South Charleston
T. G. Reed.....Charleston
F. H. Reeder.....Charleston
P. H. Revercomb.....Charleston
G. A. Rigrish.....Charleston
J. E. Roberts.....Charleston
G. C. Robertson.....Charleston
H. L. Robertson.....Charleston
W. B. Robertson.....Belle
W. S. Robertson.....Charleston
Hugh Robins.....Charleston
J. U. Rohr.....Charleston
C. N. Rucker.....Charleston
J. E. Rucker.....Charleston
G. C. Schoolfield.....Charleston
C. G. Scruggs.....Putney
Abraham Seletz.....Charleston
J. H. Selman.....Charleston
Earl Shamblen.....Charleston
A. A. Shawkey.....Charleston
W. S. Shepherd.....Charleston
W. F. Shirkey.....Charleston
G. W. Shriver.....Charleston
J. S. Skaggs.....Montcoal
J. W. Skaggs.....Nitro
A. A. Smith.....Clay
B. A. Smith.....Spencer
C. B. Smith.....Charleston
J. A. Smith.....South Charleston
S. B. Souleyret.....Coalburg
H. H. Staats.....Charleston
W. C. Stewart.....Charleston
S. M. Stone.....Charleston
H. A. Swart.....Charleston
B. H. Swint.....Charleston
W. E. Taylor.....Mammoth
John Thames.....Charleston
H. G. Thompson.....Charleston
W. A. Thornhill, Jr.....Charleston
P. A. Tuckwiller.....Charleston
C. T. Upchurch.....Gallagher
E. O. Vaughan.....St. Albans
R. H. Walker.....Charleston
C. N. Watts.....Charleston
Stanley Weinstein.....Charleston
F. P. Weltner.....Charleston
C. T. Whiteside.....Kayford
A. A. Wilson.....Charleston
W. B. Wilson.....Charleston
H. B. Wise.....Grantsville
R. E. Woodall.....Charleston
W. F. Work.....Charleston
*C. N. Brown.....Widen
*E. H. Campbell.....Alderson
*M. L. Dillon.....Charleston
*W. H. Wilson.....St. Albans

LEWIS SOCIETY

H. M. Andrew.....Weston
G. M. Burton.....Weston
S. H. Burton.....Weston
E. R. Cooper.....Glenville
G. C. Corder.....Jane Lew
M. D. Cure, Jr.....Weston
R. M. Fisher.....Weston
O. L. Hudkins.....Weston
D. P. Kessler.....Weston
W. P. King.....Weston
A. F. Lawson.....Weston
C. B. Rohr.....Alum Bridge
W. T. Smith.....Glenville
Theresa Snaith.....Weston
George Snyder.....Weston
Guy Stalnaker.....Glenville
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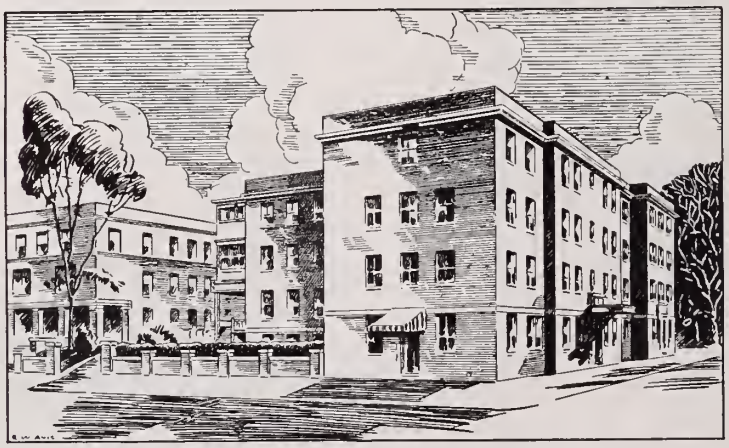

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NATURAL HISTORY OF SYPHILIS

By F. C. Hodges, M. D., F. A. C. P.
Huntington, W. Va.

In China, syphilis is said to go back to the Ming dynasty (1368 A. D.) Its presence in Europe before the time of Columbus is still a disputed question. The first reference to its supposed West Indian origin is contained in a book written by Isla in 1510, in which the disease was described as a new and unheard of affection in Barcelona, brought there from Haiti by Columbus' sailors in 1493. The author is said to have treated these sailors before they landed at Palos. Also, in favor of the West Indian origin of syphilis, it has been contended that if it had existed in transmissible form in Europe before 1492, it would have been mentioned in Chaucer and Boccaccio, while it was found in Haiti and San Domingo after Columbus' second voyage. Virchow stated that the "caries sicca" of pre-Columbian skulls was not true syphilis, but was probably arthritis deformans, or was caused by insects. Physicians at the end of the fifteenth century were already prescribing mercurial inunctions, which had been used for leprosy, chronic eczema, and various skin eruptions.

Girolama Fracastoro (1484-1553), of Verona, Italy, was a physician, poet, physicist, geologist, astronomer, and pathologist. His medical fame is due to a most celebrated poem, "Syphilis sive Morbus Gallicus" (Venice, 1530), which recognized a venereal cause, and gave the disease its name.

During the following century syphilis became less malignant, due possibly to a number of efficient remedies, with mercury, both internally and externally, as the standby.

John Hunter (1728-93) gave excellent descriptions of the differences between hard chancre and chancroid, but his autoinoculation experiment confused gonorrhea with syphilis. It remained for Philip Ricord, (1838) to overthrow Hunter's erroneous ideas regarding the identity of gonorrhea and syphilis. He described the primary, secondary, and tertiary stages; vaginal, uterine, and urethral chancres, and noted the rarity of reinfection.

Sir Jonathan Hutchinson (1828-1913) is remembered for his descriptions of the notched teeth in congenital syphilis, the mask in tabes, and the triad of interstitial keratitis, notched teeth, and labyrinthine disease, of which it is said that he saw over a million cases. Syphilologists of today who see many cases, note this enormous number.

Fournier, in 1894, introduced the concept "parasyphilis," and presented important contributions on the causal relation of syphilis to ataxia and paresis.

In 1905, Schaudinn announced the discovery of the spirochæta pallida, described its morphology, and suggested that a new genus, treponema, be established for better conformity. The following year Wassermann described his complement fixation test.

The Spirochete: In the literature, the terms spirochæta pallida and treponema pallidum have been used interchangeably. Either seems to be correct. In 1837, before the germ doctrine of disease was established, Donne described and drew, under a magnification of five hundred diameters, a regularly spiraled organism seven to thirteen microns in length, which he found only in the pus from syphilitic lesions, and which he considered to be the infective virus of syphilis.

About forty years later the search for the causative organism was again undertaken, this time culminating in the discovery by Schaudinn and Hoffman, in 1905, of a similar micro-organism, whose etiologic relation to syphilis was soon proved by many other investigators. Since this time, in spite of numerous studies by many investigators, there remain many unsettled problems. That the organism can be cultured in a virulent form is even disputed, some claiming that resistant spores which develop in the same medium in which the spirocheta grow are responsible for the production of the disease in experimental animals. Experience has shown that the virulence of the spirochete is rapidly lost when repeated subcultures are made on artificial media. Even today, thirty years after the discovery of the disease, many problems still present themselves, a few of which will be discussed.

Why some initial lesions appear relatively early after exposure, about seven days, and others fail to appear until the third or fourth week may be due to the fact that the spirochetes, when accommodating themselves to their new environment, are destroyed; some to a less degree, others to a greater, so that a varying amount of time is required for the lesion to become manifest.

It has been pointed out that the spirochete cannot always be demonstrated in the initial lesion, possibly due to an invisible stage which it assumes, or to a numerically deficient number, so that the presence of only a few may produce negative findings.

The state of resistance of the host and the variations in the virulence of the organisms themselves can probably account for the varying degrees of severity of the resulting lesions. Also, to account for difference in the course of the disease, two forms of the organism have been described—the "neurotrope," having great predilection for the nerve tissues and unaccompanied by secondaries; and the "dermotrope," having its affinity for the skin and mucous membranes, always associated with secondaries, and rarely with neurologic manifestations.

During dark field examinations it is odd that true division forms are not seen, although they have been described in cultures. The marked variation in the size of the organisms may be due to their stage of development, but may also be due to recent transverse fission.

When numerous parasites are found in open lesions of a case of primary or secondary syphilis, the administration of a full dose of arsphenamine causes a different picture to appear after seventy-two hours. Beginning in twelve hours, an appreciable diminution in the number of spirochetes is noted, in twenty-four hours only a few can be found. The healing of the lesion is not always paralleled by the rate of disappearance of the parasite. In some instances the dark field remains posi-

tive as long as twenty-eight days. Thus, while the administration of arsphenamine causes a rapid destruction of the parasites in superficial lesions, those more deeply situated are not so readily destroyed.

Several suggestions have been made to explain these differences in response to medication: (1) that a few surviving organisms might gain a tolerance for the drug, although recent experience has shown that continuous treatment is more efficacious than intermittent; (2) In late chronic lesions the increased resistance to destruction may probably be due to a fibrous tissue protection, which, being largely free from blood vessels, reduces the chances of medication reaching the organisms; (3) Different individuals probably will show a difference in protein composition, for it seems that the spirocheticidal agent in the body is not arsphenamine, but an arsenoprotein; (4) A definite incidence of relapse follows any type of syphilis therapy. In carefully performed postmortem examinations of cases clinically cured, frequent evidence of syphilis is found. This might well be explained if we accept the hypothesis that the parasite could produce resistant forms.

In late and central nervous system syphilis the difficulty of finding the spirochete in the tissues is well known. It is not strange that they are hard to find in the center of poorly nourished and degenerated areas, but the difficulty which is often encountered in their demonstration in the primary and secondary stages, and in the congenital type is much harder to explain. As late as 1921 the belief was expressed that paresis is caused by a filterable virus which grows in soil prepared by the antecedant spirochete. Warthin has found and pictured spirochetes in the tissue of late syphilitics, all forms from the typical organism with twelve to twenty turns through to small granular forms. The significance of this transformation and of the final granular stage remains to be determined, whether these minute bodies represent an infective stage, a resistant stage, or degenerative forms. In this connection it is interesting to speculate on the paternal transmission of syphilis, which is often considered physically impossible because the mature spirochete, measuring six to fourteen microns, cannot be contained in the head of the spermatozoon of five by four by two microns. Such transmission would be possible, however, if an active minute granular stage of the infective agent existed.

Several workers have conducted experiments to establish the relation of these minute forms to virulence, but, though they have frequently succeeded in convincing themselves of their infective nature, their work has not been so convincing to others.

Occurrence of the Organism in Tissues and Fluids: The inguinal glands from patients with untreated acute early syphilis always contain spirocheta pallida, but are present in only about 43 per cent of patients with untreated chronic syphilis, as determined by transplants of tissue to the testicles of rabbits.

The spirochete is supposed to be destroyed in the secondary lesions of the skin at about the time the lesions disappears. With this in mind, transplants from the skin of patients in all stages of syphilis showed two out of sixteen to be positive. These active organisms in the skin probably account for the late cutaneous gummas. Transplants from human lymph glands cannot be used as a means of determining cure in syphilis, since spirocheta pallida disappears from these glands spontaneously in many untreated and uncured cases. If they are not always present in untreated cases, their absence in treated cases, of course, can be of no value so far as a criterion of cure is concerned.

That the spirochete is difficult to demonstrate in the lesions of late syphilis is well known. For example, Warthin reports positives in seventy-five out of three hundred autopsies of patients with late syphilis. Longcope found positives in three of seven cases of syphilitic aortitis. McCord reports only 32.3 per cent positives in a series of one hundred and seventy-eight syphilitis fetuses, in which we are accustomed to think the

organisms abound. Why such havoc can be wrought by spirochetes so few in number as not to be demonstrable by present methods, if indeed they are present at all, has not been satisfactorily explained.

The lymphatics draining a chancre contain spirochetes by the time the lesion has become manifest, and very soon afterward the blood also contains them. Virulent strains have been recovered by rabbit inoculation from spinal fluids of patients with early syphilis (taken from patients with secondaries of from three to eight weeks) in approximately fifteen per cent when the fluids were normal according to the routine laboratory tests. When a pleocytosis, or an increase in globulin is present, the percentage of positives is much higher.

In the urine, spirochetes either unchanged or in various stages of disintegration have been found in granular casts and in desquamated tubular epithelium. The presence of active spirochetes in the seminual fluid is yet unsettled; some claiming them to be frequently present; others have obtained only negative results.

Pathology: The morbidity of the disease may be approximated by studies made during 1935. Forty-nine representative communities, with a total population of 29,000,000, showed that there are 4.3 persons per thousand under medical care for syphilis, a total of roughly 683,000. The annual incidence of fresh infections is four per thousand and the trend of the incidence appears to be upward.

The initial lesion appears in from one to four weeks after exposure, the variation in the time interval having been discussed above. Typically, the lesion is single, and possesses several other features which are described as distinguishing it from chancroid, herpes, and simple ulceration. Purposely the gross features will not be described, as I so frequently have seen atypical lesions that inspection and palpation have proved misleading. I have often found multiple, bleeding, tender ulcers teeming with spirocheta pallida. There is one way, and only one way, by which a diagnosis of chancre should be made, and that is by the demonstration of the spirochete; preferably by dark field illumination; as a second choice, by India ink or one of the staining methods. Thirty years after its discovery every physician in this country should be able to examine, or to have examined, all suspicious lesions with reference to the spirochete. Less attention places him on a plane with the charlatan.

Microscopically there is found a great accumulation of round, plasma, and a few polynuclear cells, having a perivascular arrangement, and marked edema. The internal layer of the blood vessels is thickened, and the lymphatics are often filled with mononuclear cells or with their own endothelial cells. The neighboring lymph glands early show an adenitis, in which the spirochetes abound. General dissemination through the blood stream takes place early, so that almost any organ or tissue may be involved. The characteristic lesion is the gumma, beginning with the formation of giant cells surrounded by epithelioid cells, and round cells. The center undergoes necrosis from lack of nutrition, forming a gummy or translucent mass, which may vary in size from microscopic to that of a hen egg. In some sections the process is very difficult to distinguish from tuberculosis.

Heart and Aorta: Tertiary lesions may appear in the heart as an acute myocarditis in multiple foci, gummata, or myocardial scars. The gummata may occur anywhere in the muscle; sometimes in and about the bundle of His. Just how much myocardial fibrosis is due to the syphilitic process and how much to narrowing of the coronary vessels is difficult to say.

Different authors report varying degrees of aortic involvement; one reports 82 per cent of 200 cases of syphilis, another in 59 per cent; another in seven per cent of all cadavers. Some express the view that aortic involvement takes place soon after the appearance of the chancre, and that in the past its discovery has been delayed until the late

symptoms referable to heart changes occurred. The lesions consist first of a productive mesarteritis which follows the vasa vasorum and causes focal destruction of the media with later more or less marked necrosis of the media between the active areas. These foci may heal, leaving irregular fibrous scars in the media which may cause indentations in the intima. To this may be added cicatricial changes, producing a bluish-white thickening, or if accompanied by arteriosclerosis, raised yellowish plaques of lipoid infiltration, and calcification. Often the change is confined to one or a few areas, in which the ascending aorta is preferred. The valves may or may not be involved; if so, there may be extention to the valve attachments, through the Sinus of Valsalva, or to the margins, causing thickening, stiffening, and shortening, with heart changes due to aortic insufficiency. No matter how marked the aortic changes may be, the process usually stops at the beginning of the abdominal portion. Aneurysms of the thoracic portion are probably of syphilitic origin in over half of the cases. If arteriosclerosis were the chief factor it would seem that aneurysms should be much more frequent, considering the prevalence of arteriosclerosis. Within the last week I have done postmortems on two patients who died of aneurysms of syphilitic origin; one a female of middle age with syphilitic changes only; the other a male of 62 years in whom there was also a marked arteriosclerotic process. In both of these patients, both the blood Wassermann and the precipitation tests were repeatedly negative. A few weeks ago I saw the aorta of a man of 59 years who had been under active treatment for syphilis for a period of three years, death being due to pneumonitis. The aorta showed marked evidence of syphilitic aortitis and a probable syphilitic myocarditis, although the spirochetes were not demonstrated. The blood and spinal fluid Wassermanns were here negative. I can agree with O'Leary when he states that we do not possess any tests or procedures on which the diagnosis of cure can be made with certainty. The coronary arteries may be narrowed, sometimes occluded.

Brain and Soft Meninges: Most of the anatomically specific changes in syphilis of the brain are spread from the meninges, which usually consists of a basal gummatous meningitis, composed of solitary or multiple inflammatory foci, or of a diffuse meningeal reaction. The infiltrating gummatous tissue leads to tight adhesions between the meninges and the cerebrum, and may later invade the brain itself. This growth may extend to the epineurium of the cranial nerves, which are thickened and brought to atrophy, causing paralysis of muscles supplied by these nerves, particularly the oculomotor. The arterial changes may lead to thrombosis and destruction of brain tissue supplied by the involved vessel.

Syphilis is the causative factor in softening of the brain, or dementia paralytica. Here the spirochete exhibits a predilection for the cortex of the anterior portions, and produce either a localized or a diffuse process, and the paralytic attacks are related to a sudden and massive destruction of nerve tissue, representing a great increase in the spirochetal activities. Just why in one case there should be paralysis, and in another case cerebral syphilis in which the vessels are chiefly involved is yet unknown. Very small gummata may be scattered all through the brain, or there may be a single large one.

In the female there exists a greater immunity to involvement of the heart, aorta, and central nervous system than in the male.

Tabes dorsalis presents as the most striking and important feature the progressive disappearance of nerves in the posterior columns and the sclerosis which this brings about. In marked cases the posterior columns are seen to be smaller, sunken, and hardened, and following the disappearance of the nerve substance are no longer cloudy white, but translucent and gray.

Bone: From the sixth fetal month onward syphilis appears in the preformed cartilagenous bone, in the form of osteochondritis syphilitica; less frequently as an ossifying periostitis. This osteochondritis is very frequent, occurring in about 95 per cent of syphilitic fetuses over six months old. It is possible to identify the condition as a symptom of congenital syphilis even in macerated stillbirths, in which other signs of the disease can no longer be demonstrated.

During the secondary stage of acquired syphilis, there may be a periosteal inflammation with its accompanying pain. Bone changes may appear, but in the later stages, and resemble the changes seen in the congenital type. These consist of bone destruction by specific gummatous inflammatory products producing caries; and new bone formation, especially periosteal. These lead to scleroses and hyperostoses. The specific gummatous foci most often appear in the periosteum, more rarely in the marrow cavity. The fresh gummatous nodules are seen as circumscribed, or somewhat diffuse, mildly painful, at first hard, later soft, elastic swellings reaching the size of a hen's egg, and of a rubbery consistency. It may resemble ordinary granulation tissue, and later be followed by contracting scar tissue. Where the syphilitic growth is established the bony tissue is resorbed to a greater or less degree, without producing any pus. It may spreac deeper, and produce caries, as seen particularly in diffuse gummatous periostitis of the calvarium. If the long bones be involved, bone brittleness with spontaneous fractures may occur; while in other cases the surrounding bony tissue may become very hard and tough, casting dense röentgen ray shadows.

The joints, bursae, and tendon sheaths may be involved as well as bones. There may be an accumulation of a serous exudate, or the formation in the synovial membrane of syphilitic granulation tissue with ulceration, and overgrowth of the adjacent membrane. It is probable that the joint affection is secondary to the presence of gummatous infiltration of the epiphyses in many cases, which lifts up and destroys the cartilage. Healing gradually takes place with the formation of fibrous tissue and the obliteration of the cavity.

Other Organs: As stated previously, all organs and tissues may be pervaded by spirochetes at one time or another during the course of a syphilitic infection, and due to local conditions of susceptibility or of resistance which are not yet understood, almost any of these organs may be attacked. Enumeration of all these will not here be attempted. Of sufficient importance to mention here is syphilitic orchitis, which arises in the interstitial tissue and pushes the tubules aside; as contrasted with tuberculosis, which usually begins in the epididymis.

In brief, then, the early changes of syphilis consist essentially of a perivascular round cell infiltration, edema, and intimal changes. The late changes are essentially variations of gumma formation, and fibrosis. Indeed, in making a postmortem examination on a late syphilitic, one notes that all the tissues cut with increased resistance. Variations in the anatomical structure of organs and tissues causes some variation in the pathological features of a syphilitic infection, but the same general pattern as that just mentioned holds good in all locations of the body.

GERMS OF GONORRHEA

Various authorities report that from 60 to 95 per cent of the male population of the United States have been afflicted by the germs of gonorrhea, the gonococci, Dr. Herbert L. Herschensohn says in the tenth of his series on "The Germs We Live With," appearing in the January *Hygeia.* Such statistics are of course difficult to obtain accurately, accounting for the wide variance in estimates.

Heat therapy is gaining in popularity, for experiments prove that 99 per cent of the gonococci cannot withstand a temperature of 106 F. for more than five hours. If, then, the temperature of the body is raised to 107 F. and kept at that level for as long as from six to ten hours, the gonococci will be killed. The remaining one per cent stubbornly cling to life. For that reason several treatments, perhaps six or more, are given at intervals of two or three days.

THE EARLY DIAGNOSIS OF SYPHILIS

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THIS paper deals briefly with and is limited to the diagnosis of syphilis while in the primary stage—the chancre.

To be successful in the diagnosis of early syphilis one must first of all be suspicious minded, and by that we mean that all lesions of the genitalia, all skin rashes or eruptions and all extragenital sores which are slow to heal should be regarded as potentially syphilitic until proven otherwise. Having arrived at this proper mental attitude we can proceed to the consideration of methods of diagnosis.

The first evidence of the existence of syphilis is the initial sclerosis or chancre except in cases of syphilis d'emblee or direct inoculation into the blood stream by needle puncture, and, of course, by blood transfusion.

The picture of the classical Hunterian chancre or primary lesion is known to all but a description will bear repetition—it is sharply marginated with a punched out appearance, the base is greyish in color, has an underlying induration with a cartilaginous or cardboard like feeling, it is painless and has a very slight serous discharge. However, all primary lesions are not so easy to recognize due to their location and lack of uniformity in size and shape; many present a simple erosion, a small papule, a slight fissure or so-called "hair cut", may be multiple or they may be intraurethral. In the female the primary lesion is often overlooked due to the fact that being painless and having only slight discharge the patient is unaware of its existence. Due to their innate modesty and the fact that many suffer at times from more or less vaginal discharge with its accompanying irritative action on the surrounding parts they are prone to minimize and to conceal any small ulceration on the genitalia. Then, too, Fournier and Stokes believe that the primary lesion is smaller as a rule in women than in men, that vaginal chancres are rare but that chancres of the cervix are much more common than is realized. They also believe that many so-called cervical erosions and vegetating lesions which might be confused with malignancy are in reality primary lesions of syphilis. All have satellite adenopathy in the lymphatic area draining the site of the primary lesion. This adenopathy is characteristic, being hard and shotty to palpation, matted to some extent, painless and practically never suppurates except in cases of mixed infection. The presence of a lesion on the genitalia of either males or females immediately arouses the suspicion of the patient and the examining physician, however, probably the most overlooked evidence of early syphilis is the extragenital chancre. These have certain areas of predilection, such as lips, tongue, tonsils, and fingers but they may occur on any part of the body. When found in places other than mucous membrane they seldom present a typical appearance and are often accompanied by a satellite adenopathy much greater in size than that associated with genital lesions. It should go without saying that in the examination of a suspected chancre one should not be satisfied with examining the lesion alone but should insist upon a complete physical examination with the patient stripped and in a good light.

Contrary to regular medical practice we have left the taking of a history until this point believing that the clinical examination is of far more importance. Nevertheless the history can be of considerable help except in cases of frequent and promiscuous coitus. The primary sore usually appears 12 to 40 days after exposure but even this may be modified by slight trauma at the time of ex-

posure such as erosions and "hair cuts", so that a simple sore may in a few days or weeks become the site of the chancre. Then, too, careful questioning may bring to light the fact that the patient has noticed suspicious sores, hoarseness, falling hair, a rash or other signs of syphilis among those with whom he has been associated.

Having made a careful examination and taken as complete a history as possible we proceed to the most important step in the diagnosis, for as Stokes says, "The diagnosis of the primary lesion of syphilis is a laboratory, not a physical or morphologic problem." The first step is the microscopic or dark field examination.

The offending organism, spirocheta pallida, has certain distinctive characteristics which can readily be recognized by a trained observer. It is highly refractile, regular in size and has distinctive motility, moving in its long axis, rolling and bending. It is most easily found in young lesions, one to fourteen days old, after which time it becomes increasingly more difficult to recover. However certain procedures are necessary in order to obtain the maximum results. Best results are obtained in young lesions which have not been treated by antiseptics or cauterants, and which are free from detritus and secondary infection. The surface of the lesions should be cleansed mechanically by curetting with gauze, mopped until all bleeding has ceased and the resultant clear serum from deeper tissue collected on a sterile slide, covered with a cover glass and examined under oil. Surface spirochetes obtained from crusts and overlying debris are seldom trustworthy because of the presence of other and confusing spirochetes. Examination of material from lesions of the oral cavity may be very confusing and should only be interpreted by a trained observer due to the fact that mouth spirochetes are very similar in looks and motility to the spirocheta pallida. The better method in this instance is to obtain serum from the base of the lesion by aspiration. As a rule it is quite easy to recover the organism from young, clean, untreated lesions but it is often very difficult to obtain them from old lesions and it is only by repeated and conscientious efforts that one meets with success. If the lesion has been treated with antiseptics it is often possible to recover the spirochete 24 to 48 hours later using only normal saline as a dressing, or if the chancre has been cauterized it may be possible in some instances to recover it from the satellite glands by aspiration.

Since it takes from one to four weeks for the body to build up sufficient resistance to the infection in order to get a positive blood reaction, it can be readily understood that no reliance should be placed upon negative blood tests done during this period. Statistics show that about 25 per cent have positive Wassermann tests at the end of the first week; 35 per cent to 50 per cent at the end of the second, increasing steadily from this time to about 80 per cent at the end of the fifth week. Serum obtained from the lesion itself can be tested in the same manner and shows almost 100 per cent efficiency even though the blood itself is still negative. While local treatment with antiseptics may ruin the attempt to find the organism it has no effect upon the Wassermann reaction of the local serum.

It should be stressed again that a single negative Wassermann or Kahn test is of little value in a case of suspected syphilis. Many factors, such as contamination, high temperature during shipment of sample and lack of proper serologic training by the technician making the test may be responsible for a negative report on a flagrant case. For this reason the patient should be checked at intervals for a reasonable period of time in order to be sure that it is not syphilis, and conversely the patient should not be treated for syphilis on clinical grounds alone but should have *positive laboratory verification.* It is just as unfair to the patient to label him a syphilitic until the proof is positive as it is to turn him loose with the assurance that he does not have the disease only to have him return in a few months with a florid secondary eruption.

A few words should be said about differential diagnosis. There are only a few diseases which show lesions on the genitalia and are common enough to be found by the general practitioner. Chancroid appears soon after exposure, is usually multiple, dirty in appearance with copious discharge, bleeds easily and is extremely painful. It is also accompanied by adenopathy which is larger in size, softer to palpation, painful and more likely to suppurate. Scabies may and usually does appear on the genitalia as papules, pustules or small ulcerations. The appearance of similar lesions over the body together with the intense associated itchiness is as a rule sufficient evidence to make a diagnosis. Herpes progenitalis, with usually a history of recurrence, presents itself in grouped pinhead size vesicles, some slight burning or tingling and little or no adenopathy. Malignancy comes insidiously and as a rule at an age when the chance of infection with syphilis is on the wane. It is harder to palpation than the chancre and as a rule begins as an hypertrophy while the chancre begins as an erosion or ulceration. Adenopathy appears early in syphilis and late in malignancy. A few other skin diseases, such as lichen planus, psoraisis, lupus erythematosus, et cetera, may have genital lesions and must be borne in mind. When the lesions are extragenital they must also be differentiated from such conditions as tularemia and sporotrichosis if on the fingers, herpes facialis if about the lips, nose or eyelids, and tuberculosis, leucoplakia and malignancy in the oral cavity. Many of these conditions show lesions on other parts of the body, such as scabies, lichen planus, psoriasis and others and it is because of this that the examiner should insist upon the right to examine the entire skin surface.

Summary: 1. The primary lesion may not be typical, due to location, trauma or previous local treatment.

2. Primary lesions in females may not be discovered due to location, smaller size and to innocent or intentional concealment by the patient.

3. Primary lesions are extragenital in far greater proportion than has been suspected. All extragenital sores which are slow in healing should be investigated. (Physicians and nurses should beware of hang nails, paronychia and indolent ulcers on their own person.)

4. The lesions should be examined with the idea of syphilis first and foremost in mind and the history should be secondary but should be as complete as possible as to time and circumstance of exposure and for impressions of the patient as to his associates.

5. The patient is entitled to the earliest possible diagnosis in order to accomplish the most good by early intensive treatment and this diagnosis can only be established in the chancre stage by laboratory procedure.

6. Early lesions must not be treated locally with antiseptics or escharotics until many efforts to discover the spirocheta pallida by dark field examination have failed.

7. That little credence should be placed in negative Wassermann tests in the first few weeks and certainly none at all in the first and second week.

8. Wassermann tests, if negative, should be repeated at intervals for a reasonable period of time. The last one being about three months after the appearance of the suspected lesion.

9. Treatment should never be instituted on clinical grounds alone, nor should the patient be discharged as non-syphilitic until sufficient evidence warrants such procedure.

10. If the examiner has tried all methods with negative results and still is in doubt, it is always wise to have consultation.

Remember that the patient with syphilis is a sick person with an infectious, contagious disease who should call forth our best efforts in his behalf both in diagnosis, (which can only be proven definitely in the primary stage by laboratory procedures), and by early intensive treatment, not only to insure his future from the ravages of this fearful disease but also to protect others from becoming infected by him. By treating him adequately

we will prevent him from infecting his sexual partners and they in turn from giving to the world syphilitic children who are handicapped at life's beginning and who in the great majority of cases are a living disgrace to the man who treated their parents, a misery to themselves and a burden to society.

THE TREATMENT OF EARLY SYPHILIS*

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FOR the purposes of this discussion "early" syphilis may be said to include the period beginning with the earliest appearance of the primary syphilitic lesion (chancre) and ending with the disappearance of the late cutaneous manifestations. It is for convenience divided into three periods as follows: (1) The chancre is present (positive dark field examination) but the blood Wassermann is negative: (sero-negative primary). (2) The chancre is still present and the blood Wassermann has become positive: (sero-positive primary). (3) The chancre gradually heals and the maculo-papular skin eruption appears: (secondaries).

It is in this "early" period that the golden opportunity exists for the physician to secure a satisfactory result and for the patient to achieve a cure. Unfortunately, due to the indifference or ignorance of the patient, or equally unfortunately, to the unfamiliarity of the physician with the proper procedure to follow, this valuable time may be lost, never to be regained.

Diagnosis: Obviously, before treatment is begun it must be established that the patient has syphilis. The most expert syphilographer cannot determine definitely as a result of inspection and palpation, that a given lesion is or is not a chancre. Confronted with a suspicious lesion the physician's first duty is to perform a dark field examination or, if unable to do so, to refer his patient to some one experienced in this valuable aid to diagnosis. Never dismiss the most innocent appearing lesion without benefit of dark field examination, (repeated several times when necessary). Many cases of neurosyphilis owe their presence to unfounded medical optimism embodied in the diagnoses of "hair cuts" "herpes" or "chancroid." On the other hand, never begin treatment until the diagnosis is established. When this is done either the patient is subjected to a prolonged and expensive treatment regime or the doctor, losing faith in his original decision, discontinues his efforts long before adequate therapy has been administered. In addition, the patient is usually placed in the uncomfortable position of never knowing whether he really had syphilis or not.

Once the diagnosis has been established by dark field examination, treatment should be begun immediately. It has been conclusively demonstrated by the Coöperative Clinical Group for the Study of Syphilis, that the chance for a complete cure when treatment is begun in the sero-negative stage is approximately 87 per cent. If treatment is delayed until the Wassermann becomes positive this percentage of permanent results drops to 65 per cent. By making an early diagnosis by dark field you are increasing your chances twenty to twenty-five per cent of securing a satisfactory outcome for your patient.

The diagnosis of secondary eruptions is less difficult and is greatly aided by the fact that the blood Wassermann is almost uniformly positive at this stage. Before leaving the subject of diagnosis, let me urge the perform-

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ance of a Wassermann reaction on every patient who has gonorrhea. (Never later than six weeks after acquiring the infection.) Many intraurethral chancres are masked by a urethral discharge.

Treatment: Assuming that the diagnosis of early syphilis, either primary or secondary, has been established, treatment must be begun at once. The choice of drugs to be employed has been greatly clarified by the modern statistical study of actual end results produced by each product. Syphilis is a disease characterized by the development of long periods of latency which simulate cure. Furthermore, the importance of positive or negative serology as a criterion of cure in treated cases is still an unsettled question. For these and other reasons, it is impossible for one individual to even begin to estimate the efficiency of any antisyphilitic drug which he has administered. Even where large series of cases are available for study a considerable period of time must elapse before any particular drug or plan of treatment can be evaluated. An efficient system of follow-up carried on over a period of ten to fifteen years furnishes the only satisfactory yardstick by which to measure our therapeutic efforts.

A comprehensive study of this type has been recently conducted by the Coöperative Clinic Group consisting of the syphilis clinics of the Universities of Pennsylvania, Michigan, Western Reserve, Johns Hopkins and the Mayo Clinic. From the vast amount of data accumulated by these investigators, comes the criteria which will serve as an authentic guide in the management of early syphilis.

Technique of Treatment: 1. Do not treat local lesions. They disappear anyway under specific treatment. The patient's mind must be imbued with the idea that he is dealing with a general, not a local infection. Ordinary cleanliness is all that is necessary.

2. In the treatment of early syphilis no drug begins to compare with the arsenicals so far as rapidity and certainty of action are concerned. Arsphenamine (606) is still the drug of choice in many clinics. Its preparation requires considerable time, equipment and technical knowledge. The actual comparative efficiency of arsphenamine and neoarsphenamine (914) has never been ascertained to the satisfaction of all. It is probable that if neoarsphenamine is given in adequate dosage its effect very closely parallels that of old salvarsan. In view of the convenience of mixing and administration of neoarsphenamine plus its proven therapeutic efficiency, it may very properly be chosen as the arsenical of choice for office administration. Mapharsen, an oxidation product of arsphenamine gives promise of being a very useful addition to the armamentarium of the syphilologist. It is said to be directly spirocheticidal and hence is effective in small doses (.06 gm.) Its toxicity is not increased by standing or exposure to air, a matter of considerable practical importance. There is possibly some reduction but not elimination of reactions incident to treatment. Although a promising youngster in the arsenical family, the final clinical evaluation of mapharsen must be said to be far from complete.

3. Since its introduction by Levaditi in 1922, bismuth has moved to the top of the list of the heavy metals employed in antiluetic treatment. It is an effective spirocheticide, presents no technical difficulties in administration and is usually well tolerated. The complications arising from its administration are few (stomatitis — "bismuth grippe"), and are usually controlled without difficulty. It produces much less pain on injection than does mercury. Bismuth certainly has a much higher spirocheticidal activity than any other heavy metal. If the arsenicals are given a rating of 100 (for purposes of comparison only) the therapeutic efficiency of bismuth may be estimated at 35 as compared to 20 for mercury. I can see no reason for the continuation of the use of mercury as an intramuscular injection. It should be uniformly replaced by the more therapeutically active bismuth.

There is some confusion existing at present as to the most satisfactory type of this drug for routine use. In general, there are three main types in common usage: (1) suspension of bismuth in oil; (2) water soluble bismuth; (3) bismuth dissolved in oil. The insoluble forms have the disadvantage of slow and irregular absorption with the resultant production of greater local reaction. In spite of these disadvantages, they still remain the choice of many syphilologists. The water soluble type of bismuth is absorbed quite rapidly and therefore requires too frequent injections (two or three times a week). This is a considerable disadvantage in the treatment of ambulant patients over a considerable length of time. It is an extremely useful form to employ in patients who are hospitalized or confined to bed. The liposoluble bismuth is apparently absorbed at a fairly even rate, the period of absorption of each dose being approximately equivalent to the usual treatment interval (one week).

In view of the proven therapeutic efficiency of each of the three forms available, I have reached the conclusion that the oil soluble bismuth (due to its non-irritating qualities and its rate of absorption) represents the medicament of choice.

Treatment Schedule: The treatment of late syphilis is a highly individualized procedure. The treatment of early syphilis may, in the light of our present knowledge, well follow a more routine plan. At least a systematic schedule should be set up for each patient and rigidly adhered to.

In view of their more rapid action, the bombardment of the spirochete should always be begun with the arsenicals. It is my custom to inaugurate treatment of early syphilis by the administration of 0.5 gm. of neosalvarsan twice a week for the first two weeks (0.4 gm. for women). This is followed by the administration of either 0.75 or 0.9 gm. for men and 0.6 gm. or .75 gm. for women (depending upon the weight of the patient) once weekly for eight weeks. Thus, we administer a total of twelve injections of neosalvarsan. This series is followed immediately by fifteen injections of heavy metal (oil soluble bismuth). A second series of ten injections of neosalvarsan is immediately given, followed by a second series of fifteen bismuths. A third and usually final course of ten neosalvarsans is in turn followed by thirty injections of bismuth. If there has been any evidence of mucocutaneous recurrence or relapse, a fourth series of salvarsan is employed. All treatments, except for the first two weeks, are given at weekly intervals. The schedule may be summarized as follows:

(a) Diagnosis: dark field; clinical findings; blood Wassermann.

(b) Neosalvarsan: 12 injections (first four injections bi-weekly).

(c) Oil soluble bismuth: 15 injections (all injections weekly).

(d) Neosalvarsan: 10 injections (all injections weekly).

(e) Oil soluble bismuth: 15 injections (all injections weekly).

(f) Neosalvarsan: 10 injections (all injections weekly).

(g) Oil soluble bismuth: 30 injections (all injections weekly).

It is obvious that this plan occupies approximately 22 months of continuous treatment. *There are no rest periods.* The continuous plan of treatment has been compared to the intermittent plan by many observers who have subjected their end results to careful analysis. It has been found that the "continuous" plan gives long-time results which are fifteen to forty-five per cent better than can be accomplished by an "intermittent" plan. By the adoption of this method the percentage of mucocutaneous relapses; the development of neuro and cardiovascular syphilis and the development of Wassermann "fastness" has been in large degree avoided. There is no doubt that the continuous plan of treatment is overwhelmingly superior to any irregular or intermittent plan.

If the schedule as outlined above must be shortened, the final series of bismuth injections may be curtailed with least harm to the

patient. I do not believe that it is necessary to perform blood and spinal fluid examinations during the standard treatment period as outlined above. No matter what the findings may be, I believe that each patient with early syphilis requires basic treatment with arsphenamine and bismuth in the amounts indicated. Laboratory reports usually have to be transmitted to the patient and during this period may prove to be either overly encouraging or too discouraging. If, for any reason deviation from the fundamental plan seems desirable, expert consultation should first be sought.

One year after the end of treatment a complete examination including blood and spinal fluid studies should be carried out. If the spinal fluid is negative it need not be repeated unless special indications arise. The blood and physical examination should be repeated each year for the next four years. The "Have a physical examination on your birthday" campaign should be intensified in that group of patients who have had syphilis.

Every patient should be informed at the outset that he has syphilis and what he has to expect in regard to duration and amount of treatment. It is my experience that many patients consider that the acquiring of syphilis commits them to a lifetime of treatment. For this reason, the prospect of two years of treatment seldom seems to daunt them as much as might be expected. The plan outlined above has been called the 30-0-60-5 plan. The formula is interpreted as follows:

1. Thirty injections of salvarsan.
2. No rest periods.
3. Sixty injections of bismuth.
4. Five years of observation.

Unfavorable Reactions to Treatment: Accidents which occur in the administration of intravenous treatments are important because they are potentially dangerous or may require the changing or actual discontinuance of treatment. The following precautions help to minimize or prevent such untoward reactions:

1. Use a drug prepared by a reliable manufacturer.
2. Test each ampoule by immersing in alcohol.
3. Assure yourself that the drug is completely dissolved in its solvent.
4. Dilute sufficiently: (20 cc. for neoarsphenamine); (100 cc. for arsphenamine).
5. Inject slowly: (5 minutes for neoarsphenamine); (15 minutes for arsphenamine).
6. Stop the injection at once if the patient complains of pain across the lumbar regions, tightness across chest, cough or headache.
7. Have adrenalin at hand to meet the nitritoid crisis if it develops.
8. Inquire in regard to itching or patchy skin eruption following the previous treatment. If uncertain, switch to bismuth.
9. If vomiting or diarrhea follow each treatment, look out for trouble. Modification of dosage may be necessary.
10. Examine the urine at beginning of treatment and at least once a month thereafter.

Summary of Treatment of Early Syphilis:

1. Do not procrastinate; make a clean-cut decision that a given skin or penile lesion is or is not syphilis, employing in this decision clinical acumen, dark field and blood Wassermann examinations.
2. Begin treatment at once with arsenicals, following a systematic plan for each case.
3. Treat continuously without rest periods.
4. Alternate arsenicals with heavy metals.
5. Use every precaution to minimize untoward reactions.
6. Acquire dexterity in intravenous injections.
7. Explain at the beginning of treatment the expected duration of treatment period.
8. Do not be influenced by stories of "being cured with six shots."
9. Insist on yearly check-up examinations for at least five years, including blood and spinal fluid studies.
10. As a simple guide to treatment keep in mind the 30-0-60-5 plan.

BIBLIOGRAPHY

1. *"The Control of Syphilis,"* Stokes, J. H.; Venereal Disease Information, November, 1936.
2. *"The Continuous Method of Treatment of Early Syphilis,"* Moore, J. E.; Annals of Internal Medicine, Volume 10, No. 1, July, 1936.

SYPHILIS IN INFANCY AND CHILDHOOD

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ACQUIRED syphilis in the infant is rare and when it occurs it differs little from the acquired form seen later in life except that the primary lesion is more apt to be extragenital and the disease less severe.

Congenital syphilis is the form commonly encountered in fetal life and in infancy and childhood. The term congenital is used because syphilis cannot be directly inherited. The fetus is invariably infected in utero, the treponema gaining access via the placenta. This usually occurs in the fourth or fifth month of intrauterine life.

Much controversy has arisen because of the occurrence of some apparently contradictory phenomena in connection with congenital syphilis.

Germinal transmission from the father does not take place. The head of the spermatozoon is three to six microns long and the body of the treponema six to fifteen microns long. To have germinal transmission occur it would be necessary for the treponema to be incorporated in the head of the spermatozoon, a definite impossibility. The proposed explanation that at some time in its life cycle the treponema exists as a virus, or as a small "granular body", is not accepted nor is it based upon experimental or factual evidence.

Syphilis in the infant always means syphilis in the mother. It may be present in the mother only in a latent form. An "apparently healthy" mother, free from symptoms, or even presenting a negative or weakly positive blood Wassermann reaction may give birth to a syphilitic infant. Pregnancies tend to light up a latent syphilitic infection. This undoubtedly occurs in many of the apparently contradictory instances but it is not unlikely that for others the real explanation lies in the individual differences in immunity reactions in syphilis about which we know so little. It must be admitted that we are still ignorant in regard to the exact modus operandi whereby a mother without manifest signs of syphilis can give birth to a syphilitic infant.

A mother apparently non-syphilitic is immune to infection from her syphilitic infant because she herself already has syphilis.

An infant born to a syphilitic mother may show no evidences of syphilis yet be immune to infection from its syphilitic mother because it is already a syphilitic infant and the disease is latent.

Another interesting immunologic phenomenon is the tendency for the degree of transmissibility of syphilis to diminish in proportion to the duration of the disease, and this even in the untreated mother. Hutchinson described this in 1863, long before the advent of specific therapy. This tendency is very common. As characteristically observed the first pregnancies tend to end in miscarriage, later ones in stillbirths, still later ones in syphilitic premature infants, then viable but immature infants that live but are grossly syphilitic, then ones with less florid manifestations and finally infants healthy and at all times free from infection.

If at the time of conception either parent is actively syphilitic, the baby will be syphilitic unless the pregnant woman receives early and adequate antisyphilitic treatment. Since infection occurs between the fourth and fifth months the fetus has a better chance if treatment is started weeks prior to this time.

Transmission to the third generation has never occurred in spite of current belief to the contrary. In such cases there has always been an acquired infection in the second generation.

Since the intrauterine infection is via the placenta, the first lesion is a septicemia and no primary lesion or chancre is found. In this respect congenital syphilis differs from acquired syphilis. Otherwise every other feature of the acquired form may at times occur in the congenital form.

Congenital syphilis is generally spoken of as fetal, infantile, late or latent according to the state at which the pathologic and clinical manifestations are observed. The fetal and the early infantile forms correspond to the secondary stage of acquired syphilis. The late form corresponds to the tertiary stage in the acquired disease. The latent stage is not unlike the latent stage in the acquired form.

Pathologic and Clinical Characteristics: As a result of the septicemia the organs most intimately related to the fetal circulation are most extensively affected early. These are the spleen and liver.

In fetal and early infantile syphilis there occurs a marked proliferation of connective tissue, yet in the histologic slide, in the absence of the treponema, even this does not permit of a pathologic diagnosis. Many of the characteristic pathologic changes occur as a result of this infective process perverting the normal growth and development of certain organs. While these changes are in great measures dependent upon the underlying mechanical effects of the extensive overgrowth of connective tissue, to a lesser degree they may depend directly on the activity of a syphilitic toxin or indirectly to the reaction of tissue cells to such a toxin. Failure of normal development of the parenchyma of some organs would seem in many instances to be due to an inhibition of the cells by such a toxin rather than by proliferation of connective tissue. Embryonal tissue frequently persists in the pancreas and other organs.

The spleen of the syphilitic fetus may be four to five times as large as that of the nonsyphilitic newborn. It is enlarged in over 90 per cent of all cases of congenital syphilis. It is then literally "loaded" with organisms. This is the most common lesion found.

The liver is almost as constantly the site of change and abounds as well in organisms. They are seen inside and outside the blood vessels, inside and outside the bile ducts and even in the liver cells themselves. There is a proliferation of embryonal connective tissue but no characteristic cellular lesion. Later fibrosis, contraction and scarring become the characteristic findings.

The suprarenals are generally enlarged. The glomeruli of the kidneys may not be normally developed.

The lungs may show (1) a connective tissue hyperplasia, (2) a syphilitic pneumonitis described as "pneumonia alba" or (3) even miliary gummata.

In the vascular system and heart a periarteritis is common but the endoarteritis so commonly seen in acquired syphilis is rare. Warthin alone has striven for the recognition of changes due to syphilis in the myocardium and endocardium of the congenital syphilitic. Syphilitic aortitis or valvulitis probably does not occur as a result of congenital infection.

In the bones there are most characteristic changes. Osteochondritis is observed most typically in the fetus but is also present in the infant during the first six months of postnatal life. Osteoperiostitis is observed more frequently later, although in rare instances it may be found in the early form. Because of its importance, each will be discussed separately.

Osteochrondritis occurs as an inflammatory process at the junction of the diaphysis and the epiphysis. In the epiphysis and in the metaphysis very characteristic changes occur. Normal bone growth does not take place. The reason for this is evident if one slices longitudinally the femur of a syphilitic newborn or young infant. At the end of the shaft, where it joins the proliferative cartilage, instead of the normal fine gray-white epiphyseal line which one is accustomed to see, there is an irregular granular yellowish zone. On cutting this, it is found to be spongy, gritty and characteristically broadened. It may exceed four to six cm. in width.

This change is due to the masses of trabeculæ of calcified cartilaginous material, trabeculæ which lack their usual bony coating. Just how the infection brings about such changes is not known. An understanding of these pathologic changes however, is most helpful in the proper interpretation of the clinical and x-ray findings so characteristic of early congenital syphilis. Frequently the epiphysis becomes separated from the shaft but Park has emphasized the fact that the epiphysis always brings away with it the metaphyseal portion of the shaft. The separation always occurs in the rarified zone which has either replaced the metaphysis or is in the shaft of the diaphysis just below the metaphysis. The "comminution" or "mushing together" which commonly occurs is readily apparent in the x-ray film and is characteristic although it may be confusing when mixed with scurvy or rickets.

Osteoperiostitis may be present early, in which case it tends to be at the ends of the bones. When present later it tends to be nearer the center of the shaft. In younger children the distribution tends to be general and may involve the phalanges as a dactylitis. The tibiæ are a common site in older children. The periostitis of infancy seldom breaks down, so seldom becomes secondarily infected. In older children it tends to break down and form sinuses. Park has pointed out that the characteristic change in periosteal bone formation in congenital syphilis is the formation of one layer of periosteal bone over another. When combined with rickets it may be most confusing in the x-ray film.

An osteitis may occur anywhere in the lime-containing portions of the bone. On x-ray these appear as rarified moth eaten areas. These areas are made up of syphilitic granulation tissue, rarely of gummata. Gummata may appear in the skull in late congenital syphilis.

Enlargement of the epitrochlear lymph glands is suggestive when present but the general glandular enlargement described so frequently in the past as a particular characteristic is rarely seen. The epitrochlears when enlarged may be of great diagnostic assistance.

At autopsy the central nervous system is involved with frequency. Probably one-third of all cases show unusual cerebrospinal fluid findings including a positive Wassermann. A serous meningitis with hydrocephalus is common. There may be a basilar meningitis. Tabes and paresis of the juvenile type may occur but are exceedingly rare.

Rhinitis is seen in both the early and late forms. There may be also an acute catarrhal inflammation with ulceration and bloody discharge. Gummatous changes and deep ulcers with involvement of the subjacent periosteum, cartilage and bones may cause perforation and destruction of the bridge of the nose or other facial deformities. Perichondritic changes may be found in other sites of the upper respiratory tract, particularly the larynx or trachea.

Symptomatology: The *symptoms of early infantile syphilis* are not always present at birth. According to Veeder and Jeans, they are to be observed during the first month in 50 per cent of the cases and by the end of the second month in 83 per cent. While some infants may show an eruption of pustules, papules or macules, the latter particularly on the soles or palms, the vast majority are born in an apparently healthy state. As a rule, the more severe the infection the earlier the symptoms are found. If the first three or four months pass without symptoms, the chances are that the infant will escape most of the early symptoms. It is generally possible to find evidences of activity before the seventh week. "Snuffles" occur early. The skin rash next appears and is as a rule seen first on the hands and feet and then on the buttocks and face. Less frequently fissures may be seen around the lips or anus and there may be mucus patches. There may be fever. Tender, painful joints may indicate epiphysitis and there may be a "pseudo paralysis" from this epiphysitis. It may simulate the painful extremities of acute scurvy. Nutrition is usually but by no means always af-

fected. The pinched, wrinkled face, with skin apparently thickened and a countenance sometimes a bit leonine may be an outstanding feature. Jaundice may be present and persistent.

Between the extremes observed there may be all degrees from apparent health to most extensive syphilitic disease.

The typical rhinitis occurs early, resembles an ordinary head cold and appears in the second to sixth week of life as a rule. It is persistent and there may be a bloody nasal discharge. Sneezing is rare but obstruction is common. If the infant is untreated, extensively deeper lesions tend to develop. There may be accompanying laryngitis, huskiness, et cetera.

The rash usually follows the appearance of the rhinitis by eight to ten days. At times it is the first symptom, and there may be no rhinitis. In the severest form, pemphigus syphilitica neonatorum, a bullous eruption with bloody or purulent contents may be found. It is worst on the palms and soles. The more common maculopapular form appears as small somewhat elevated macules 0.5 to 1.0 cm. or larger, associated with papules scattered well over the body. It may be a copper colored, red or brown or even yellowish. An annular appearance is not uncommon. When present it is most suggestive of syphilis. Mucous patches may be present on mucous membranes or where moist surfaces make contact. A papulopustular eruption as well as the roseola of acquired syphilis rarely are encountered.

Besides these circumscribed cutaneous lesions there may be a diffuse, quite characteristic eruption which is seldom seen in acquired syphilis. This is a diffuse infiltration of the skin best found on the palms, soles and face and to a lesser extent on the thighs, genitalia or buttocks. The skin appears stiffened, and may vary from a copper red to a brownish yellow. Desquamation is variable and often extensive.

Linear ulcers around the lips, or in the anal region, produce fissures which later form the "rhagades" and purse string deformity. In recent years, with earlier treatment more common, "rhagades" are seen much less often than formerly. When present they are unmistakable and of great diagnostic value.

The general status of nutrition in the more severe cases tends to be poor but one is often astounded at the good state of nutrition in many of the less severe cases. The scalp veins of congenitally syphilitic infants are almost invariably larger than those of the non-syphilitic. This is of considerable importance for it favors the intravenous use of arsenicals.

The nails may be claw-shaped as a result of onychia and paronychia with involvement of the matrix. Alopecia is not an important feature of early congenital syphilis but may occur as a late symptom.

The *symptoms of late congenital syphilis* may appear any time during childhood. They may or may not have been preceded by early symptoms. They may occur after inadequate treatment or with no treatment at all. Late symptoms seldom make their first appearance later than during puberty.

Osseous changes are most characteristic. This is usually an osteoperiostitis and it affects particularly the shaft of the long bones and the cranium. It is apt to be chronic, is most common between the fifth and fifteenth years and rare before two to three years. For diagnostic purposes the tiba, long bones of the forearm and cranium should be studied for here the lesions occur with greatest frequency. In the tibia, the shaft particularly is involved. It may be bent inward in the lower third resembling a "saber blade." The entire shaft may be enlarged. At times the distribution within the bone is very scattered and consists of areas of necrosis with subsequent hyperplasia, exostosis, etc. Gummatous lesions are seen less frequently. The other bones affected tend to be symmetrically involved with enlargement, thickening and increased density the outstanding features. The course is chronic if not treated. Marked deformities may result. At times sinuses may develop. Pain, particularly nocturnal and tenderness

are common. The x-ray changes are of great diagnostic value. In the cranium gummata and exostoses are not infrequently seen.

The temporary teeth, contrary to popular notion, exhibit no characteristic syphilitic change. They do however decay readily. The permanent teeth are apt to exhibit the so-called Hutchinsonian deformity. It is of diagnostic value only when found in the upper central incisors. The characteristic deformity is a single notch in the center of the biting edge. It is not very deep and is crescentic in shape. The body of the tooth tends to be smaller than normal with a resulting space between the teeth. At times the incisors may be shaped like the tip of a screw driver or may be more rounded than normal resembling a peg in shape. A syphilitic change which occurs in the six year molars consists of an hypoplastic, deformed crown, separated somewhat from the body of the tooth by a line of circular demarcation.

Subcutaneous gummata with secondary ulceration are seen in untreated cases. When such occurs they are to be found particularly in the skin of the face, or that over the thighs or tibia. The ulcers are much like those seen in the acquired form. The resulting scar is characteristically smooth, white and puckered.

A "saddle" deformity of the nose, a persistent fetid nasal discharge and ulceration of the mucous membranes follow or accompany the breaking down of gummatous deposits within the nose. A perforated septum or necrosis of the turbinates or adjacent bones may occur. The rapid extension of the process as compared with the slow chronic progress of lupus serves as a distinguishing diagnostic feature.

The liver and spleen are apt to be enlarged. Jaundice and ascites may occur in accordance with changes therein.

The first symptom suggesting congenital syphilis in later childhood may be a paroxysmal hemoglobinuria. The occurrence while rare is characteristic when encountered. It may be the only symptom, yet the blood Wassermann may be strongly positive.

Interstitial keratitis is the most common eye change and it occurs in all degrees of severity. Frequently this is the first sign of congenital syphilis. It resembles that seen in the acquired form except as to age incidence and to a history of acquired infection. Choroiditis is frequently observed on ophthalmoscopic examination. Optic atrophy is rare as also is swelling of the nerve head.

Hearing may be disturbed as a result of a chronic otitis. It was more frequent in the days preceding the use of arsphenamine. Painless in character, the onset of the process which produces the loss of hearing is usually sudden and tends to be permanent even under treatment.

Moist condylomata are frequently seen in untreated cases.

The joints may be involved in a syphilitic arthropathy.

Hutchinson's "triad" consists of the deformed incisors, deafness and keratitis in combination. It is a characteristic of the late manifestations of congenital syphilis.

Other late symptoms may be those characteristic of central nervous system involvement. Meningitic or encephalitic changes are more regularly met with. They are of little help in diagnosis except when accompanied by spinal fluid changes. The paretic form and the tabetic form occur rarely and resemble strikingly that which is seen in the acquired form in the adult. Mental retardation or downright deficiency is common in untreated cases, and yet may be entirely absent in those adequately treated.

In latent syphilis there may never be any other evidence of congenital syphilis than a positive blood Wassermann reaction.

Diagnosis: Diagnosis is not difficult in the extensive and typical forms. Snuffles, rash, the oral or anal fissures, rhagades, mucus patches, and enlarged spleen when present paint an almost unmistakable picture. The history of parental infection may or may not be helpful. Demonstration of the organism by dark field illumination is often possible. The Wassermann reaction (or in its place a

substitute reaction such as the Kahn, Hinton or Eagle test) may be helpful if the child is over six months old. Prior to this time only a positive reaction is of value, for in spite of characteristic physical findings it may be negative until between the fourth and sixth months. After the second week of postnatal life a definitely positive reaction is an evidence of congenital syphilis.

In recent years the more common treatment of pregnant syphilitic women during the carrying period has produced some bizarre clinical and serologic findings, thus rendering interpretation less simple. It is very desirable that the clinician know the unique characteristics of the serologic, x-ray and clinical findings in the syphilitic newborn and young infant. He should know what these are in the untreated syphilitic infant, in the infant whose mother was treated during pregnancy and the infant under specific treatment. X-ray films should be taken "soft" in order to best show up the typical changes in the infant's bones.

If a syphilitic woman is treated early in her pregnancy her infant may escape entirely. If treatment was given inadequately, or begun late, the infant may not have a positive blood reaction even if untreated until the eighth, tenth or twelfth month, and yet show typical x-ray change during the first three or four months. The x-ray changes may be the only evidence of syphilis at that time and yet later the Wassermann become positive and symptoms appear.

Clinically the florid types of case are seen now with less frequency because of better utilization of facilities for specific therapy.

Interpreting the late symptoms of congenital syphilis is rendered easy by the finding of the Hutchinsonian notches in the upper incisors, the sunken bridge of the nose, an interstitial keratitis, a persistent deafness, enlarged epitrochlear lymph glands and an enlarged spleen, and a positive blood or cerebrospinal fluid Wassermann reaction. A perforated or ulcerated septum, a "saber shin" and bony exostoses of the tibia and cranium are of diagnostic significance when present.

The prognosis varies with severity of infection, age of patient, duration before treatment was commenced, early recognition and early institution of treatment. Generally speaking, the earlier treatment is started, and the more intelligently it is applied, the better the prognosis provided the infant has something near average basic vitality. Coöperation of the parents and faithful adherence to accepted therapeutic procedure favors the best end result. In early infancy the more florid the infection the less favorable the prognosis even under treatment. When the late symptoms of congenital syphilis are present, the prognosis is not as favorable as it would have been had the patient been treated in early infancy. Relapses occur with less frequency than in acquired syphilis. It must be admitted that even meager treatment, given early, almost invariably prevents further extensive ravages of the disease.

That some immunity may develop is shown by the fact that in the untreated syphilitic mother, there is a tendency for the infection to be less active in successive pregnancies until finally the offspring shows no evidences of syphilis or at the most a positive Wassermann reaction (latent congenital syphilis).

If treatment is sufficiently energetic and the only signs of central nervous system involvement are those of cerebrospinal fluid changes, then the prognosis for the cure of this cerebrospinal syphilis is good. On the other hand, in the more diffuse encephalitic or the more severe meningitic forms, improvement is not so constant under even most intensive therapy. In the paretic and tabetic forms treatment is usually of little if any help, and the prognosis is steadily and progressively worse.

Treatment: The congenital syphilis encountered in private practice, when properly handled, yields rather generally to appropriate specific therapy. The ideal time for

treatment is of course early in the period of pregnancy (prophylactic). If this does not occur the early application of proper anti-syphilitic measures in the newborn or young infant offers the next best hope and is generally quite effective in the babies of average vitality.

Holt and McIntosh recommend treatment for the mother during her pregnancy "(1) if she is syphilitic, whether the disease was acquired at the time of conception or subsequently, (2) if the father is known to be suffering from syphilis, whether the mother has syphilis or not, (3) if the mother has ever previously shown signs of syphilis and still gives a positive Wassermann reaction, even if she has had no active symptoms for a considerable period. In all these conditions if efficient treatment is carried out throughout pregnancy there is a strong probability, but in no case a certainty, that the child will escape. The third condition mentioned is the one in which treatment is most neglected, especially if the mother has previously given birth to a child who was not syphilitic, however, shows a strong tendency to reappear and become active during pregnancy, even though it has been long queiscent."

Specific treatment should be started once diagnosis can be made with reasonable certainty from either clinical, serologic or x-ray evidence. Unless the mother was treated during pregnancy, the blood Wassermann will be positive by the fourth to eighth month at the latest if the infant is syphilitic. X-ray changes will generally be demonstrable in the long bones between the first and fourth months even if treatment has been started. Characteristic clinical findings, in addition to the above, will tend to make the diagnosis certain.

While very weak infants may require medication reduced to 30 to 50 per cent the amount advocated for the average infant, a reliable procedure can be laid down which will be safe and effective for all but the most delicate children.

Arsphenamine is still the most effective form of arsenic even in congenital syphilis. For two years, (1919, 1920) in the Harriet Lane Home for Invalid Children, I observed its intravenous use. It was used in courses of six to eight weekly injections alternated with courses of mercurial inunctions of equal duration. It is effective but requires great care and ability in administering it intravenously. Besides there is the trouble of carefully neutralizing it. Since 1921 I have used neoarsphenamine in the place of arsphenamine. For years it was my custom to follow a course of six to eight injections of the arsenical with a period of bismuth in oil of equal frequency and duration. Since 1926 I have employed a routine of two years of continued treatment, without periods of rest.

At the Baby Clinic of the Huntington Mothers' Club, blood Wassermanns are taken on all new patients of six months or more. For some years now in this clinic, it has been the custom to alternate courses of arsenic with courses of bismuth. Daily mercurial inunctions are used during the course of arsenic injections. Treatment is always kept up continuously for two years regardless of freedom from symptoms or negative serologic findings. Sulpharsphenamine intramuscularly has been used in this clinic as the arsenical of choice because of its ease of administration. It has been effective. Blood Wassermanns are taken every six to twelve months for three years thereafter and a cerebrospinal fluid Wassermann is taken at six months and again at two years after the completion of the second year of treatment. The results have been as consistently good as are to be had in any form of specific therapy at our disposal.

In my own practice for the past three years now I have alternated a weekly administration of neoarsphenamine intravenously with a weekly intramuscular injection of bismuth in oil. This I keep up for two years or for approximately 50 injections of each. Results are equal to, if not actually superior, to those I have had when alternating a course of arsenic with a course of bismuth. "Rest periods" which some years ago were considered so es-

sential are now thought to be of detrimental rather than beneficial influence.

Arsenic may be used intravenously in the form of arsphenamine (0.01 gram per kilogram of body weight) or neoarsphenamine (0.015 grams per kilogram of body weight). Personally I prefer intravenous administration using a No. 26 hypodermic needle (rarely a No. 24) and almost invariably I can introduce the fluid properly diluted directly into the scalp veins. This is very easy to do in small infants. The veins are naturally fixed, are easily entered, and are of sufficient size. Painful swellings do not occur. Neoarsphenamine in the same dosage is used intramuscularly by some. Sulpharsphenamine (0.02 to 0.025 grams per kilogram) is given intramuscularly. It is a satisfactory agent and may be used by those not skilled in the intravenous administration of neoarsphenamine. Acetarsone or stovarsol may be used by mouth beginning with a dose of five milligrams per kilogram and increased as rapidly as possible to 20 milligrams per kilogram. It is best given twice weekly in the place of a weekly injection of an arsenical. It may give rise to diarrhea in weak infants and must be reduced or omitted. It is not at present to be recommended in the place of the other arsenicals.

No arsenical should ever be injected into the superior longitudinal sinus, or intraperitoneally. To do so is very dangerous. Neoarsphenamine has been used by rectum but should not be so used. All arsenical, bismuth or mercurial medication should be withheld during febrile attacks, diarrheal states and with cells, casts or albumin in the urine.

Bismuth is best given in oil as a salicylate or tartrate. The dosage of the salt is for children under two years, 0.025 grams; for children two to six years, 0.05 grams; for children over six years, 0.1 gram. It may be given either at weekly intervals during a bismuth course of six to eight weeks or alternated with arsenic so that bismuth is given one week and arsenic the next week for 60 to 100 weeks.

As an inunction unguentum hydragyri dilutum and hydrous wool fat equal parts make a bland ointment. Approximately one to two grams of this, containing 7.5 to 15 grams of mercury, is to be rubbed in daily during the course of the mercurial inunctions. A different site should be used each night.

Where gummatous lesions exist the iodides are indicated as in the acquired form. They are rarely indicated in the treatment of early symptoms.

Children, including infants, take arsenicals intravenously with much less reaction proportionately than do adults. Severe reactions are most uncommon. In giving arsenicals, the dosage should always be administered according to the weight and not just according to age. When neoarsphenamine, sulpharsphenamine or bismuth are given intramuscularly, sterile abscesses may occasionally occur. They are never serious. The buttocks provide the best site for giving intramuscular arsenic or bismuth. An injection deep into the gluteals is the method of choice. In giving bismuth in oil, it is most advisable to retain a bubble of air in the syringe so it can be injected following the oily mixture. For oil a No. 24 to No. 22 needle is needed. Needless to say, all syringes and needles should be sterilized and preferably by boiling rather than by chemical means.

In discussing with the parents the problem of treatment, we should insist that the disease in the congenital form is a serious one, that the relief of symptoms with proper treatment is easy and is almost certain to occur after one or two treatments but that in spite of this the disease is chronic and requires a prolonged therapeutic period of not less than two years. It should be explained that the blood Wassermann may be reversed with great difficulty. The parents must be cautioned against ceasing treatment as soon as the symptoms subside. Unless warned ahead of time the parents almost invariably want to stop treatment just as soon as the baby appears to be well and symptom free. The art of keeping the parents sympathetically and attentively coöperative is as important and as essential in effecting a cure as is the knowledge of specific drug therapy.

SYPHILIS AND PREGNANCY

By WALTER W. POINT, M. D.
Charleston, W. Va.

SYPHILIS is well known for its far reaching and destructive effect on the human organism. When a women who is syphilitic becomes pregnant, the problem assumes a new and far more ominous aspect—the family, the community, the state, and even the entire race, is concerned. In the majority of cases (82 per cent according to Zangemeister) there are no clinical symptoms of syphilis in pregnancy. This tallies fairly well with the figures found in the non-pregnant state. In the remaining 18 per cent however, where definite manifestations of the disease exist, we can note certain variations. Generally speaking, all local syphilitic lesions are more marked in pregnancy because of the increased vascularity of the pelvic tissues. It is also a well known fact that chancres occurring in pregnancy take longer to heal. With the telltale induration, diagnosis should usually not be difficult, especially from lesions presenting themselves in the cervix during pregnancy; the normally soft cervical tissue contrasting so clearly with the luetic induration. Cervical chancres are usually of the erosive type, being oval in shape and forming fissures which radiate toward the cervical canal. In color they appear redder than the surrounding bluish cervical tissue, are friable, and bleed easily. Some authorities stress their phagedenic tendency in pregnancy. The dark secondary manifestations likewise undergo suppuration. Eroded papules develop rapidly, undergo progressive hypertrophy, and often constitute veritable granulating tumors which invade and deform the entire vulva.

Opinions differ as to the effects of syphilis on the general condition of gravidæ. Moore and Solomon express the view that pregnancy, through metabolic changes, in large measure protects the central nervous system from the spirochetes and lessens the severity of syphilis as it affects the patient generally. Davies holds that aggravation of the disease in pregnancy is the exception and that pregnant women suffer less from systemic disturbances than non-pregnant women. We all know that in many cases no evidence of syphilis is apparent during pregnancy, its presence being diagnosed only when the newborn baby shows unmistakably its existence in the mother. Gellhorn, who is being quoted liberally in this paper, states that he has yet to note, in any syphilitic gravida, "that exuberant feeling of good health, that blossoming out into intensified well-being which we so often find in normal women during pregnancy." On the contrary, states Gellhorn, syphilitics often show aggravated subjective discomforts common to the pregnant state and in addition, frequently complain of headache, loss of hair, insomnia, and obstinate neuralgias in various parts of the body. They are anemic, lose weight, and have more or less persistent fever. Renal complications are not usual, while eclampsia is rare because syphilis usually causes premature termination of the pregnancy. According to Petit, the morbidity of pregnancy is reduced if specific treatment is instituted promptly and systematically.

The labors of syphilitic women may be perfectly normal and differ in no way from those of healthy women. However, abnormal presentations are comparatively common because of premature deliveries or maceration of the fetus. Such cases usually produce precipitate labors. On the other hand, full term labor with the child in normal position, often shows weak uterine contractions. In some

cases, cervical tissue changes from local lesions result in marked resistance to dilatation to the degree of actual advanced dystocia, with marked tendency to cause deep cervical lacerations at delivery. If a syphilitic granuloma is present, it may cause enough obstruction to block delivery, while condylomata lata usually cause such friability of the perineum that it tears like wet blotting paper. Perineal repairs in a syphilitic woman should not be done primarily. They should be allowed to heal by granulation and repaired later only after successful antiluetic treatment. Of the more rare complications encountered during syphilitic labor may be mentioned rupture of the uterus, premature detachment of the placenta, rupture of the heart, aneurism of the uterine artery, and exhaustion of the adrenal system with fatal result.

Briefly summarized, the potential danger from syphilis in labor is definitely established. Likewise, we know that specific treatment, instituted promptly and systematically early in pregnancy will not only lower the morbidity of pregnancy but will avert many of the sad sequelæ at, or after delivery.

During the puerperium syphilis may cause further trouble. Subinvolution, delayed recovery, and unusually, hemorrhage, have been noted. Adherent placenta, and even abruptio placentæ, have been traced back to syphilitic infections. Probably the greatest danger is infection. Most infections resolve, not, however, without leaving behind a prolific source for future gynecological procedures.

The question of immunity, so muddled by our acceptance for so many years of Colles' and Profeta's laws, may be summarized briefly as follows:

(1) The mother of a syphilitic child is always syphilitic herself.

(2) The children of syphilitic mothers are practically always syphilitic. Serological tests and our knowledge of latent syphilis have proved these facts beyond any doubt.

Syphilis exacts a tremendous toll of infant life. It was formerly thought that the greatest loss occurred during the first four months of fetal life. Now it is known that most deaths occur after the sixteenth week. From then on the child's life is in constant danger. Some authorities (Jaschke and Pankow) found that habitual abortions accounted for twenty per cent. Late abortions and premature births of macerated fetuses occur in more than sixty per cent of the cases (Heynemann, Spalding, Huernberger, and others). Only fifteen per cent of infected children reach full term; of these 67.5 per cent either are stillborn or die within the next few days.

The prognosis for the child depends on the stage of the disease existing in the mother. The more recent the infection before conception, the more disastrous is the effect upon the fetus. In the course of years, virulence gradually diminishes and if the disease is very old even healthy children may be born. However, no hard and fast rule may be employed as to prognosis so that an irregular sequence of abortions, premature deliveries, and stillbirths may be noted. Only in a minority of cases do children born alive show distinct manifestations of the disease while in the great majority symptoms appear at a later date.

"It is of the greatest importance," says Williams, "that the practitioner should become thoroughly familiar with the characteristic lesions of fetal and placental syphilis, as upon their recognition the future treatment of the patient depends." The normal placenta at term weighs 500 gm. and its proportion to the weight of the child is as 1:6. If syphilitic, the placenta becomes larger and heavier, the proportion to the weight of the child being 1:4 and even less, because most syphilitic children are premature. The color is paler than normal; its consistency soft, spongy; the feel fatty or greasy, particularly if the child is badly damaged. However, negative placental findings do not necessarily imply the absence of fetal syphilis. The newborn child itself may present unmistakable manifesta-

tions of syphilis. It is usually undersized, with little or no subcutaneous fat, greenish, wrinkled skin, and the mien of a sad old man. Until death it emits a more or less constant hoarse, moaning sound. The skin presents the most manifest symptoms. It is very brittle, especially at the flexor surfaces of the joints, so that breaks occur easily in these areas. The skin on the palms and soles is thickened and glistens like a washerwoman's hands (Kerr). The mouth and anus areas present fissures while pemphigus vesicles are found in a varying profusion. De Lee notes a coppery erythema of the buttocks, paronychia, lymphadenitis, and icterus. There may also be mucous patches in the mouth and pharynx, with a peculiar form of rhinitis (snuffles) appearing a few days after birth, the discharge varying from dryness to bloody with dry incrustations at the nasal entrance. The liver and spleen are often greatly enlarged. Prognosis is most unfavorable and even immediate treatment not very encouraging.

Seventy-five out of one hundred syphilitic children die within the first year of life (Adams), generally within the first week, and are always an easy prey to infections and intestinal disturbances. The remaining 25 per cent have latent syphilis which manifests itself usually before the nineteenth year. The congenital syphilitic however, is never safe and physically or mentally, literally drags a ball and chain throughout his entire existence. He is never normal and may pass his infection on to the third generation (Hutinel), a fact formerly thought to be a rarity but now accepted as a not infrequent occurrence.

The generally accepted theory today is that the disease is always transmitted from the mother to the child in utero by way of the placental circulation. Therefore, syphilis is congenital and not hereditary, in the strict sense of the word.

Spirochetal manifestations in the fetus depend upon two factors, (1) the duration of the mother's syphilis, and (2) the stage of the development of the fetus. If infection of the mother takes place a short time before conception, the fetus is almost certain to die in utero. The longer the mother has syphilis before conception, the more probable is the birth of a macerated fetus, a premature child, a stillborn child, or a living child with latent syphilis. Contrary to the old view, syphilitic abortions do not occur before the fourth month, at least spirochetes have never been found in such early stages of the placenta (Weber). If the mother becomes infected during the first half of her pregnancy, the chances for the child are unfavorable. If it occurs during the last half of pregnancy, the child will likely be carried to full term and be born alive either with manifest or latent syphilis. If maternal infection occurs during the last few weeks of pregnancy, the child may be born alive and well but contract primary syphilis in its passage through the birth canal. Or, it may escape entirely to later contract the disease by nursing his syphilitic mother.

As a result of experiences over a period of many years by authorities the world over, the following established principles have been crystallized: (1) Every syphilitic gravida must be treated, regardless of the amount of treatment received before conception, and irrespective of the absence of symptoms. The same treatment is required in each succeeding pregnancy. (2) The earlier in pregnancy treatment is instituted, the greater are the chances for the birth of a living and healthy child. No matter how late in pregnancy maternal syphilis is recognized, intensive, systematic treatment must be given. (3) In order to be effective, treatment must be energetic and systematic. The arsenicals have definitely proved (Fournier) their superiority over mercury for this prophylactic purpose. Gellhorn states that at no time need the practitioner fear abortion or fetal death from intravenous injection.

It is not the scope of this paper to include an actual treatment regime. However, those of us who practice obstetrics should have a Wassermann test on each and every pros-

pective mother at her first examination, and although the value of a cord Wassermann on the newborn is a moot question, it behooves us to leave no stone unturned in diagnosing a latent infection and it should be done routinely. Only by close coöperation in all fields of medicine, particularly among the obstetricians, the pediatricians, and the syphilologists, with the education of the laity, enlightened legislation, and public health measures may we hope to attain the lofty aim of eradicating syphilis from the world. (Gellhorn).

PUBLIC HEALTH CONTROL OF SYPHILIS

By HUGH B. ROBINS, M. D.
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"IT IS the specific responsibility of Public Health to provide through community effort those services for the saving of life and prevention of disease which the individual is unable to provide by his individual efforts."

The control of syphilis is not the responsibility of the health officer alone; the medical profession alone; or any group of lay persons. It is the responsibility of all of the people, and any program that does not have proper coördination and coöperation of all groups will not succeed.

The local health officer will in most instances be the director of this control group. He will work out with the aid of a medical and lay committee the details of the local program. The chief handicaps to control are: first, ignorance; second, censorship; third, economic cost to the patient; fourth, lack of proper reporting of new cases and seeking out the source of known cases and their control.

In overcoming the first handicap the task is to teach all of the people what syphilis is; how transmitted; how prevented; the value of early and prolonged treatment; the enormous damage to health and life it is causing, and the price in cash we are now paying for it. In order to reach all age and social groups many teachers and techniques are required. New things are being discovered about this disease every year and this information should be made available to all physicians. The problem must be fully explained to those in charge of our educational system and their coöperation secured. Physicians and nurses especially trained in social hygiene should be developed for a traveling teaching staff. The beginning of this training has already started. It was made possible through social security funds alocated to the United States Public Health Service and scholarships at Johns Hopkins and other teaching centers have been set up. In addition to regular lecture work, perhaps even before lecture courses are organized, it will be the function of this especially trained group to develop local instructors in the various cities and counties. Looking ahead not too far, I hope elementary instruction will be included in the junior and high school curriculum.

People still generally regard syphilis as a disgrace instead of a disease. To change this attitude the censorship of the press must be overcome. Informative articles should appear in our daily papers. This is already going on in many of the larger cities in the United States.

The third handicap of control is the economic factor. Consider the diagnostic tests—dark field, serologic tests, and spinal fluid examination. The indigent go to the nearest free clinic or get no service; the well-to-do pay whatever price is asked, but the lower middle class just do not have them done. I recently asked one of Charleston's leading obstetricians why he did not do a routine test

on prenatals, after he had admitted that it should be done. His answer was, "first, some object because of the implication, and second, it costs too much." (Three dollars is the usual laboratory fee in Charleston.) The first objection can be overcome by education; the second, by reducing the cost of the fee. It is estimated that some profit can be made by the private laboratories on a one dollar fee for a Kahn test and the loss will be compensated for in part by the increased volume of business. Either this will happen or this service will be given by the State in the same manner that the State Hygienic Laboratory now freely makes tests of water or widals. In any event the service must be enlarged.

Syphilologists have agreed that every syphilitic should have regular treatment for at least eighteen months, therefore, if we are to keep patients coming back over long periods, the charge must be scaled to meet his or her particular income. Inability to pay full or even partial payments to the doctor is very definitely one of the chief drawbacks to adequate treatment. This might be improved if the arsenicals were supplied free to all licensed physicians. Dr. Parran, the Surgeon General, has announced that he is definitely in favor of this, and it is being done in New York and Massachussetts.

We must realize that our efforts cannot be evaluated unless there is accurate reporting by physicians. What the health officer wants to know is whether the number of new cases is increasing, or decreasing from year to year. To get this information each physician must coöperate by reporting each case that is of less than twelve months duration (early cases) and which has not previously been treated by another physician. The health officer is not interested in names, and reports should be made by number with this exception, patients who stop treatment during the acute infectious stage. Of these uncoöperative patients the health officer will want full information. He will attempt to find and return them to treatment. Where this is being done, about 85 per cent of those who are contacted go back to the same doctor. We must apply the methods of case finding and contact control that has proven successful in our tuberculosis campaign. It is well within scope and ability of the well trained public health nurse to do this.

In conclusion, the health officers have no illusion about the difficulty of accomplishing this task. We have a foe that challenges our best efforts. But with capable leadership and proper coöperation by all groups, the American people of this generation will mark up another major health achievement.

THE TALENTED CHILD

Mothers whose children are exceptionally talented in some form of art are often fearful that their children will not be happy because they are so different. Yet gifted children are just as happy as are the more commonplace youngsters; they merely are more adult and less easily directed than the average child. Regina J. Woody gives concise and specific instructions to the perhaps bewildered mother who finds she has a child genius in her family. "The Talented Child" is her article in the January *Hygeia*.

The amount and kind of food such a youngster consumes is one of the most important aspects of his physical fitness, which must be maintained at all costs. To the child who burns up energy as an apprentice to some serious artistic form, food can prove his making or his undoing. He should replenish his energy as soon as it is consumed, eating as often as five or six times a day.

Don't dress the talented child conspicuously save when absolutely necessary. Clothes of good material, becoming and well cut, will permit much healthier and more pleasant mental habits. The child who is always on show is apt to be tired, feverish and pettish on quite the wrong occasions. Any child who must perform when desired and be at his best when he is performing should have his way of life made as easy as possible.

No mother should condone disagreeable behavior, but if possible she should remove the cause of such behavior rather than merely punish the child for it. When you must clothe your child to be the cynosure of all eyes try to keep your own attitude as impersonal as possible.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

The common statement that coal miners have a high resistance to tuberculosis has been accepted without serious challenge for years. The blackened lung of a coal miner seen at autopsy is an impressive sight, but the very presence of carbon in the pulmonary tissue often tempts the pathologist to exclude tuberculosis without further search. Recent studies, however, indicate that we shall probably have to revise our ideas concerning the protective value of carbon particles in the lung. M. J. Sokoloff, in an article on anthracosilicosis and tuberculosis, demonstrates that coal mining of today is a hazard predisposing to tuberculosis. Excerpts of the article follow:

Carbon Dust and Tuberculosis: Tuberculosis is comparatively uncommon in workers exposed to dusts of carbon, lime and marble while those who work in an atmosphere laden with silica particles are particularly susceptible to tuberculous infection. Coal dust is the only one to which is attributed the property of inhibiting the development of tuberculosis. Attention was called to the high resistance of coal miners to tuberculosis as early as 1862 and since then evidence has been presented that carbon particles in the lung do exert a protective influence. During recent years, however, several investigators have reported that coal miners die from tuberculosis with greater frequency than the average of the total population. And in a group of 100 old and retired coal miners in Wales, tubercle bacilli were found in the sputum of six on the first examination.

It is probable that conditions under which modern miners work may explain the discrepancy between the older and more recent surveys. Formerly hand drills were used exclusively. In order to avoid the hard rock most of the drilling was done directly into the coal along the edge of the vein. The dust consisted of rather large particles which as a rule settled quickly. Thus the miner was exposed to almost pure carbon dust and, because the particles were large, symptoms of pneumonoconiosis did not appear before exposure of from 12 to 15 years.

In the modern coal industry the pneumatic drill or "jackhammer" is used. The dust created by this instrument consists of fine particles which at times is blown back with great force into the face of the operator and some remains suspended in air for many hours. Inhalation of this fine, highly concentrated dust may result in severe respiratory impairment after an exposure of only three or four years.

The pneumatic drill has made it practicable to mine small veins of coal which under the old method were considered too insignificant and time-consuming to remove. To reach these small veins it is necessary to drill directly into rock and this increases the hazard to the present-day coal miner by adding to the coal dust a great amount of fine silica particles. Analysis of the dust of certain anthracite coal mines showed that at times concentration may be as high as one billion particles per cubic foot of air (average 124 million) and that certain of these dusts contain as much as 31 per cent of free silica. Uncomplicated anthracosis such as was common among miners of the old type has been replaced in the modern miner by fibrosis of the lung associated with silica deposits.

To determine the frequency of tuberculosis as a complication of anthracosilicosis, observations were made upon a group of anthracite coal miners institutionalized because of disabling chronic pulmonary disease. Only those patients who had remained under treatment for two months or more were included. The group consisted of 418 men varying in age from 21 to 67 years and whose period of exposure to mine dust ranged from three to 50 years. The average age was about 43 years and the average exposure period 19 years. All of these men had used the "jackhammer" periodically. Surface mine workers were not included.

In 42 of these patients the lesions resulted solely from the action of mine dust, in 57 per cent evidence of co-existing tuberculosis was found and in the small remainder non-tuberculous pulmonary complications occurred. The age-incidence study showed that tuberculosis appears later in life among these mine workers than it does in the general population; almost half were between 41 and 50 years of age while only eight per cent were in the 21 to 30 age group. The incidence of tuberculosis varied directly with the amount of dust present in the lung.

The type of tuberculosis which complicates anthracosilicosis differs materially from that which is usually seen. It does not extend progressively downward from the apical or subapical region, but is found scattered throughout the lungs among the silicotic nodules. The tuberculous lesion is usually

of slow evolution, is always present in both lungs and consists mainly of caseous nodules varying in size from a split-pea to a walnut. Tendency towards cavitation is great, demonstrable cavities being found in 43 per cent of the patients. The excavations may attain tremendous size, sometimes occupying almost an entire lobe. They are often multiple and may occur anywhere in the lungs, but the larger ones are usually found in the upper lobes. Caseous pneumonia occurs as a terminal event in many instances. Extensive plastic changes in the pleura are nearly always associated. Effusion occurs infrequently.

The clinical picture of anthracosilicosis co-existing with tuberculosis may be either non-toxic or toxic. In the former type the patients present the usual symptoms of pneumonoconiosis, dyspnoea, cough, expectoration and chest pains with slight fever in a few instances. Impairment of general health is slight. These cases are usually considered simple anthracosilicosis until attention is called to the tuberculosis by the discovery of tubercle bacilli or by roentgen-ray evidence.

The second or toxic form is characterized by extensive cavitation, the clinical picture being that of rapidly progressing tuberculosis. In addition to the local symptoms, there is always severe constitutional disturbance as evidenced by fever, loss of weight, loss of appetite, weakness and profuse sweating. Fever is a predominant feature of this form. It is present throughout the entire course of the disease and is septic in type, the afternoon temperature reaching 103 or 104 F. in the majority of patients. Repeated and profuse haemoptyses occur in many instances.

The diagnosis of uncomplicated anthracosilicosis presents no special problem but to determine whether or not tuberculosis coexists is very often a difficult task. The following points should be considered:

1. Discovery of tubercle bacilli in the sputum. However, extensive tuberculous disease may be present with consistently negative sputum, or occasionally the bacilli may be present in intermittent showers.
2. Serial roentgenographic studies (less valuable in advanced pneumonoconiosis).
3. Marked constitution disturbance.
4. Physical examination (not usually helpful).
5. Frank haemoptysis.
6. Pleural effusion (absent in uncomplicated anthracosilicosis).
7. Tuberculosis in other organs.

The prognosis depends mostly upon the pathological condition. The pulmonary changes which occur as a result of the inhalation of dust are permanent and cannot be altered in any way by therapeutic measures. In many patients, however, lessening of the severity of local symptoms and improvement in general health may be obtained by a prolonged period of rest in a suitable environment. In advanced pneumonoconiosis, this improvement may be only temporary, as death often ensues as a result of acute intercurrent respiratory infections or of myocardial insufficiency. The addition of tuberculosis contributes immeasurably to the gravity of the prognosis. When this combination is present in the non-toxic form the patient may live for years in comparative comfort. In those in whom the toxic variety of combined anthracosilicosis and tuberculosis develops, a fatal termination may occur in a relatively short time.

It is difficult to determine the frequency with which tuberculosis coexists with anthracosilicosis in coal miners because data from death records is concerned chiefly with individuals treated at home and the detection of tuberculosis occurring coincidently with pneumonoconiosis may require prolonged observation, repeated analyses of the sputum and serial röentgenographic study.

Anthracosilicosis and Tuberculosis, Martin J. Sokoloff, Am. Rev. of Tuberc., Nov., 1936.

PROPOSED BASIC SCIENCE ACT

A BILL

To provide for examinations in basic sciences as a prerequisite to eligibility to practice the art of healing in this state as herein defined; to provide for the appointment of a board of examiners in the basic sciences and to prescribe the powers and duties of said board of examiners; to provide for the punishment of persons violating the provisions of this act; and to repeal all acts and parts of acts inconsistent with the provisions of this act.

BE IT ENACTED BY THE LEGISLATURE OF WEST VIRGINIA:

SECTION 1. The intent and purpose of this act is to protect the health and promote the welfare of the people of this state, and to this end to require all persons who may hereafter seek to be licensed to practice the art of healing in this state to pass a uniform examination in the basic sciences as herein defined, as a condition precedent of eligibility to procure such license.

SECTION 2. The Governor, by and with the advice and consent of the Senate, shall appoint a board of examiners in the basic sciences, to consist of six members. The first appointments shall be made within sixty days after this act shall take effect, two members to be appointed for the term of two years each, two members for the term of four years each, and two members for the term of six years each, and until the appointment and qualification of their successors. Upon the expiration of the respective terms of office of the members of the board first appointed, their successors shall be appointed with terms of six years each, and until the appointment and qualification of their successors. Vacancies shall be filled by appointment for the unexpired term. Each member shall qualify by taking and filing with the secretary of state the constitutional oath of office. No person shall be appointed as a member of the board who is not a full time professor, or associate or assistant professor, teaching one or more of the basic sciences in some university or college in this state accredited by the North Central Association of Secondary Schools and Colleges. Of the six members of the board, one shall be selected for his fitness to examine in the subject of anatomy; one in the subject of physiology; one in the subject of bacteriology; one in the subject of pathology; one in the subject of hygiene and public health; and one in the subject of chemistry. No member of the board shall be actively engaged in the practice of healing, as herein defined, nor licensed to practice healing; and if, during his term of office, any member of the board shall procure license to practice healing, as herein defined, or shall become actively engaged in the practice thereof, his office shall, *ipso facto*, become vacant.

SECTION 3. The members of said board shall, within thirty days after their appointment, meet and elect a president and vice-president from their own number, and elect or appoint a secretary-treasurer, who need not be one of their number, each of which officers shall hold their respective offices for two years and until their successors are elected and qualified. Any member of the board and the secretary-treasurer shall have power to administer oaths. The secretary-treasurer shall be required to give bond in the penal sum of five thousand dollars with sufficient sureties to be approved by the Governor for the faithful discharge of his duties. A majority of the board shall constitute a quorum for the transaction of business. The board shall keep a record of its proceedings and register of all applicants for certificates of eligibility, which register shall show whether the applicant was rejected or a certificate granted. The books and register of the board shall be *prima facie* evidence of all matters recorded therein. The board shall have a common seal and shall formulate rules and regulations to carry out the provisions of this act. The board shall meet at such times and places as shall be designated by the board, and shall conduct at least two examinations in the basic sciences each year. The board shall conduct examinations at such times and places as it deems best, due regard being had to the times and places of the examinations held by the examining boards authorized to issue licenses to practice the several branches of the healing art.

SECTION 4. The board may determine the compensation of the secretary-treasurer and of such other assistants as may be necessary to carry out the provisions of this act. The members of the board shall serve without compensation, but shall be entitled to receive actual and necessary traveling and other expenses incurred in the discharge of their duties. The board is authorized to incur such expenses as may be necessary to carry out the provisions of this act. The secretary-treasurer and other assistants shall receive actual and necessary traveling and other expenses incurred in the discharge of their duties. The expenditures of the board shall not exceed the estimated revenue to be derived from the fees prescribed by this act.

SECTION 5. Every person desiring to practice the art of healing in this state, as herein defined, shall make application to the board of examiners in the basic sciences for a certificate of eligibility to take the examinations therein, such application to be accompanied by a fee of twenty-five dollars, and the said board shall issue such certificates upon the following conditions:

Each applicant shall show to the satisfaction of the board that he is of good moral character, and possesses a high school education, or its equivalent; and shall present satisfactory evidence to the board of having completed two years of study leading to a degree in the sciences and arts in a college approved by the North Central Association of Secondary Schools and Colleges, or the equivalent thereof; and in addition, shall pass an examination before the board and to its satisfaction in the following subjects: anatomy, physiology, pathology, bacteriology, hygiene and public health, and chemistry, with

a grade of not less than 75 per cent in each subject: Provided, That the board may, in its discretion, waive the examination herein required when proof satisfactory to the board is submitted, showing (1) that the applicant has passed in another state of the United States an examination in the basic sciences; (2) that the requirements of that state at the time of such examination are not less than those required by this act for the issuance of a certificate; and (3) that like exemption from examination in the basic sciences is granted by such state to holders of certificates of eligibility issued under the provisions of this act; provided, further, that where a certificate is granted without examination, as hereinbefore provided for, the application for such certificate must be accompanied by a fee of fifty dollars. The fee for endorsement of a certificate issued under this act to another state shall be five dollars.

Every certificate of eligibility issued under this act shall be signed by the president and secretary-treasurer of the board, and shall be sealed with the seal of the board.

If the applicant shall fail in one subject only, he may be re-examined in such subject at the next ensuing examination without payment of any additional fee: Provided, That he shall file an application with the board in accordance with the rules of the board. If the applicant shall fail in two or more subjects, he shall be considered as having failed in all subjects, and thereafter, in order to be eligible for examination, he shall file a new application for examination in all subjects, accompanied by the fee of twenty-five dollars, as provided in this section, and shall show proof satisfactory to the board of additional study in the basic sciences. No person shall be eligible for more than three examinations within a period of three years.

SECTION 6. No examining board for any branch or system of healing shall admit to its examinations, or license, or register, any applicant to such board, unless such applicant shall first present to said board and file with it, a certificate of eligibility in the basic sciences, issued under the provisions of this act.

SECTION 7. The board, or any member thereof may issue subpoenas requiring any person or persons to appear before the board and be examined with reference to any matter within the scope of any inquiry or investigation being conducted by the board and to produce any books, records or papers pertinent to the subject of such inquiry or investigation. Any member of the board may administer an oath to a witness in any inquiry or examination before the board. In case of disobedience to a subpoena, the board may invoke the aid of any circuit court in this state in requiring the attendance and testimony of witnesses and the production of books, papers and documents. Any circuit court in this state within the jurisdiction of which such inquiry or investigation is being carried on may, in case of contumacy or refusal to obey a subpoena, issue an order requiring such person to appear before said board and to produce books and papers if so ordered and give evidence touching the matter in question; and any failure to obey such order of the court may be punished by such court as a contempt thereof.

SECTION 8. The board may revoke any certificate of eligibility issued upon mistake of material fact or by reason of fraudulent misrepresentation of fact by any applicant, or when the holder thereof shall be convicted under Section 9 of this Act. Whenever a certificate of eligibility shall be revoked by the board, any license to practice any branch of the healing art which may have been obtained through the issuance of such certificate of eligibility, shall likewise be automatically revoked.

SECTION 9. If any person shall unlawfully obtain or procure a certificate of eligibility under the provisions of this act by false statements contained in his application to the board, or other fraud or misrepresentation, or if any person shall forge, counterfeit or alter any certificate of eligibility issued under the provisions of this act, or if any person shall practice any branch of the healing art, as herein defined, without securing the certificate required under this act, or shall continue such practice after his certificate is revoked, as provided in Section 8 of this act, he shall be guilty of a felony, and upon conviction thereof, shall be fined not exceeding $500.00, or imprisoned in the penitentiary not exceeding two years, or both, at the discretion of the court.

SECTION 10. The terms "practice of healing", "art of healing", "healing art", and "healing", as used in this act, are hereby defined as, and shall be construed to mean and include any system, treatment, operation, diagnosis, prescription or practice for the ascertainment, cure, relief, palliation, adjustment or correction of any human disease, ailment, deformity, injury, or unhealthy or abnormal physical or mental condition: Provided, That this act shall not be construed as applying to dentists,

pharmacists, nurses, optometrists and chiropodists practicing within the limits of their respective callings.

The term "basic sciences" as used in this act shall be construed to mean and include anatomy, physiology, bacteriology, pathology, hygiene and public health, and chemistry.

SECTION 11. All moneys received by the board of examiners in the basic sciences shall be paid promptly into the state treasury, and shall be credited to the general fund of the state to be disbursed as appropriated by the legislature, and a receipt for the same shall be filed by the secretary-treasurer of the said board in the office of the auditor of this state. The expenses of the board, subject to the remedies in Section 4 of this act, shall be met from the appropriation made therefor by the legislature.

SECTION 12. This act shall not apply to any duly and legally licensed person engaged in the practice of healing in this state on the date this act goes into effect.

SECTION 13. The certificate of eligibility required under the provisions of this act shall be construed as an additional qualification of applicants for examination, or license, or registration, in any of the branches of the healing art, and as a condition precedent thereto. It shall not be construed to be in any way a substitute for or in lieu of any of the requirements prescribed by law or by any examining board in any of the branches of the healing art.

SECTION 14. The board of examiners in the basic sciences shall in no manner discriminate against any system or branch of healing. No applicant shall be required to disclose the professional school he may have attended or what system of the healing art he intends to pursue. The examination papers shall not disclose the name of any applicant, but shall be identified by numbers to be assigned by the secretary-treasurer of the board.

SECTION 15. Should any provision or section of this act be held to be invalid for any reason, such holding shall not be construed as affecting the validity of any remaining portion of such section or of this act, it being the legislative intent that this act shall be effective, notwithstanding the invalidity of any such provision or section.

SECTION 16. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

TWENTY-FIVE YEARS AGO

(Taken from the February, 1912 Issue of the JOURNAL)

STATE NEWS

At the last meeting of the State Board of Health held in Clarksburg on November 13, 14 and 15, twenty-three applicants for licensure appeared. Of these, fourteen were successful. Dr. W. C. Mays of Riley, Dr. C. C. Merriam of Stotesbury and Dr. R. A. Salton of Welch, were among the successful candidates.

* * * * *

President Henry and Secretary Butt planned a trip to the meeting of the G-H-H-M Society in an effort to stimulate the society, which is now one of the live societies of the state.

* * * * *

Society Proceedings

LITTLE KANAWHA AND OHIO VALLEY SOCIETIES

Parkersburg, W. Va., Jan. 12, 1912

Dear Editor:

On Jan. 4, 1912, the L. K. & O. V. Medical Society met at 7 p. m. at the Chancellor Hotel. First all present partook of an elegant dinner, after which the Society held its meeting.

Sixteen members were present. The stormy weather interferred with larger attendance. The treasurer made his annual report, after which the election of officers for the ensuing year took place.

Dr. H. D. Price, president; Dr. O. D. Barker, 1st vice president; Dr. B. F. Harrison, 2nd vice president; Dr. E. H. Douglass, Petroleum, 3rd vice president; Dr. M. R. Stone, secretary; Dr. W. H. Sharp, treasurer; Drs. D. C. Casto, M. O. Fisher and S. H. D. Wise, counsellors.

* * * * *

Two hundred and fifty-three thousand dollars has just been pledged by the people of Wheeling and vicinity with which to erect a new city hospital. Building operations will begin as soon as possible, and when the structure is completed it will be the most up-to-date hospital in this country.

The institution will be equipped medically and surgically with ample hydrotherapeutic, electrotherapeutic, x-ray apparatus, and several operating rooms.

No probationers will be accepted in the School for Nurses until late in the present year.

PLINY O. CLARK, *Supt.*

PRESIDENT'S PAGE

Last month I was invited to attend the annual meeting of the County Society Secretaries held in Charleston at the Association headquarters. I confess that I contemplated the trip as an obligation of my office and the meeting as a perfunctory matter in the course of routine Association business.

The program, which included discussions on infant and maternal welfare, social security, workmen's compensation, and county society management, was well presented and enthusiastically discussed. It was one of the best medical meetings I ever attended. By the time the morning session was concluded I had come to the realization that I was in the midst of a gathering of some of the most earnest and interesting physicians in the State. I discovered that the convocation of the County Society Secretaries is a meeting of vital importance to organized medicine. The enthusiasm which electrified this particular meeting renewed and increased my confidence in the future development of our own State Association.

The County Medical Societies are the building stones with which the State Association is constructed. I think you will agree with me that the success or failure of each County Society is largely attributable to the activity or the indifference of its officers—particularly the secretary. Fortunately the secretaries are recruited from the younger men in our County Societies. They are destined to be the standard bearers of the State Association in future years. Each and every one should be required to attend the annual meeting at headquarters. It will give him a keener appreciation of the importance and responsibilities of his office. It will give him a broader vision of the hopes, the ambitions, and the ideals of organized medicine.

Our State Association provides a modest mileage allowance for each County Society Secretary who attends the annual conference. Since this is such a valuable and important meeting, would it not be a good idea for us to extend the same courtesy to the Presidents of our County Societies? I think it would be money well spent.

President

THE WEST VIRGINIA MEDICAL JOURNAL

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SYPHILIS CAMPAIGN

This issue devoted exclusively to syphilis is THE JOURNAL's contribution to the effort now being put forth to conquer the "third great plague." Surgeon General Parran is to be warmly commended upon the work he has undertaken and enthusiastically supported in it. He is unquestionably correct in seeking to turn the spotlight on venereal diseases because any problem to be solved must first be understood. However, a medical checkrein should be exercised over all health publicity. Only today one of our patients brought to the office a pamphlet now being distributed to the laity, and purporting to describe the symptoms and dangers of venereal diseases. The first page quoted General Parran rather extensively and the last two were devoted to extolling the prophylactic virtues of one particular brand of condom. Moreover there is always the danger of top-heaviness when one phase of a general program is overemphasized by undue publicity.

Another point to be borne in mind as the campaign progresses is that the greatest degree of success can be attained by working through the individual physician and in complete harmony with the medical profession. Also we would urge upon the profession at large the necessity of putting our shoulders to the wheel and helping in every way possible to eradicate this great thorn in the flesh of mankind.

A CHALLENGE

In medical annals the beginning of the sixteenth century is notable for the Syphilization of Europe. Control was impossible because of lack of knowledge of the positive agent, ignorance of its method of transmission, ignorance of how to treat the disease.

Three hundred years later, in spite of our laboratory tests, our vastly increased knowledge of its natural history, in spite of our specific remedies, syphilis is again rapidly spreading. The medical profession has accomplished wonders in eradicating smallpox and typhoid fever and in lessening the spread of tuberculosis. We are much better equipped to control syphilis, yet syphilis stands still as "Captain of the Men of Death."

The public will not much longer tolerate this condition. Already it is looking to the medical profession and asking "why." In this State we must take up the fight. Indications are that advances will be made along three lines: early diagnosis, adequate, *modern* treatment, public education.

Is the rank and file of the medical profession prepared, or must the State take control?

CONTROL OF SYPHILIS

Syphilis has too long occupied its position at the head of the list of human ills. With this issue, THE JOURNAL of the West Virginia State Medical Association joins with those who say, "Something can and shall be done about it." We invite those of our readers who have not already done so, to read carefully the articles in this number devoted to syphilis. These are by prominent physicians from various parts of the state and show clearly, yet simply, the modern conception of the diagnosis and treatment of syphilis as well as the reasons upon which these procedures are based.

We are well equipped to combat syphilis. Only diphtheria surpasses it in controlability. But with all of our wonderful armamentarium of diagnostic tests and specific remedies, where are we getting? Who even knows how

much syphilis there is? (Who reports this disease?) What of the appalling amount of public misinformation and false beliefs regarding syphilis? What of the temporarily non-infectious patient who discontinues treatment? What of the hospital patient who shows a positive Wassermann? And so on ad infinitum. The net result of these questions is that syphilis is being cared for in a haphazard manner that reflects no credit upon the medical profession.

There is an informed public opinion that it is well acquainted with this situation. More and more insistently it asks our profession "Why?" What do you propose doing about it? Or must the state take charge as in Sweden?"

We may dismiss the Swedish method, wonderful as it has been proven, as ill adapted to ways of American life. Whether the state is to take control, is for us to say. The record of the profession under FERA shows we have no need for state medicine. Unquestionably our record under the Social Security laws will be at least as glorious. Must the government take over the control of syphilis?

In West Virginia it would seem that our procedure would be along three main lines. (1) Public education. (2) Control of infectious foci and the discovery of contacts. (Syphilis insontium). (3) Increasing use of modern method in diagnosis and treatment. In other words, our citizens, our public health officials, and our profession must coordinate and coöperate, and inescapably ours is the rôle of leadership.

Logistically, we, as a profession, must acquaint ourselves with the modern methods of syphilis therapy. Where necessary this can be effected with the coöperation of the State Department of Health and other governmental agencies. In any event the close collaboration of the Department of Health and the West Virginia State Medical Society must be effected before effective progress can be realized. Once this is accomplished, education of the lay public can go forward and results secured.

In the final analysis the problem is essentially that of the medical profession. Our relief record shows that we can organize; this number of THE JOURNAL shows we have the knowledge; we have the tools, have we the will to use them? Or do we prefer to let syphilis become the spearhead of socialized medicine? It is up to us!

SOCIAL SECURITY

Elsewhere in this issue of the JOURNAL will be found the complete schedule of rules, regulations and fees pertaining to medical participation in the West Virginia Public Assistance Act. All of this information was taken direct from the manual of instructions recently sent out by the Public Assistance Department to all county administrators.

No difficulty is anticipated in caring for the usual emergency home and office calls under the new setup. It is almost identical with the old medical relief plan of the West Virginia Relief Administration and most of the doctors of the state are familiar with that plan. While the fees allowed for this work are far from adequate, yet the doctors, especially those in rural sections, have been perfectly willing to "go along" and coöperate with the relief agencies in providing good medical service to the indigent. We feel that they will continue to do so under the new arrangement.

In the matter of providing hospitalization and paying surgical, laboratory and x-ray fees, difficulties are anticipated. This is an entirely new field of endeavor and if the relief agencies become too liberal in providing hospitalization for other than emergency cases, we believe that expenditures for this purpose will be more than many counties can pay. If these expenditures are excessive, the medical profession will probably be blamed, even though the medical profession is not responsible and plays no part in authorizations for hospitalization.

That is where the different county societies can render a most valuable service both to their members and to their county relief officials. County medical advisory committees should be selected at once by the different county societies to serve as their official representatives with the county relief offices. And each such medical advisory committee should continually point out to the county administrator the absolute necessity of confining the medical service program to *emergency* service. If the service is limited to *emergency* cases, it will not take undue advantage of the doctors and it will keep the cost of the service at a reasonable medium. On the other hand, if the service is thrown "wide open", there will be plenty of grief for all parties concerned.

Each county society should select its very best talent on its medical advisory committee. This is a job that will make or break state medicine in each county and our very best men should be drafted to handle a matter of such extreme importance.

BASIC SCIENCE LEGISLATION

It now appears that the Association will definitely sponsor a basic science bill during the present session of the West Virginia legislature. The proposed bill is printed in its entirety in this issue of the JOURNAL. All members are urged to read and study the bill and to familiarize themselves with its contents. Then write to your senators and delegates and request their support.

It has happened upon one or two occasions in the past that members have failed to support Association legislative proposals and in some instances have opposed the Association program for the stated reason that they were not familiar with what was going on. As we are publishing the complete basic science bill, there will be no excuse for any doctor not to be familiar with its provisions. We feel that every member of the Association will gladly give his support to this meritorious measure.

A last minute telegram in support of this bill will not be nearly as effective as a personal letter at the present time. Members of the legislature know that most telegrams are sent "under pressure." So we urge, you, now, to write your legislative representatives and request their earnest consideration of our proposed bill.

LAND OF THE COD

"At the splitting table it is said that 'the "splitters" stand with their knives of a pattern handed down through many generations. They grasp the fish by the "ears" to cut off the heads. With one time-honored movement, they rip out the entrails and push the livers into a vat through a hole in the splitting table, from which the oil will later be collected. With one more swing of the knife the back bone is removed. The fish is then split and is ready to be laid on the "flakes" and salted.' "

Thus Miriam Zeller Gross describes part of the procedure of preparing for market the cod of the Gaspé peninsula. "The Land of the Cod," her article, appears in the January issue of *Hygeia*. Little of the oil from the livers of Gaspé will be used as medicinal cod liver oil because modern refinements of production are practically unknown on the Gaspé. The oil of the cod caught there will be used, when used at all, for paints and similar commercial purposes.

The Gaspé country is the finger of land between the St. Lawrence River and the Bay of Chaleur. It is a part of the province of Quebec and covers 11,000 square miles. Ever since its discovery by Jacques Cartier early in the sixteenth century, its people have depended heavily on the season's catch of cod for their very existence.

Fishing today, as in 1537, is divided into two classes: inshore and outside. In the former type, two or three men work in boats about the size of rowboats, and they fish anywhere from one to ten miles out. Weary, arduous rowing trips of 18 miles to a good fishing spot are not uncommon occurrences. Those who work on the outside have from twelve to twenty men to the boat and go from 50 to 100 miles out to the "banks" in either sail or motor boats which the fishermen have built together.

The cod cannot be termed a game fish in any sense of the word, and codfishing will not give the amateur any particular excitement.

COUNTY SOCIETY NEWS

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard on the evening of January 14 with an excellent attendance. The guest essayist of the evening was Dr. W. M. Sheppe of the Wheeling Clinic, Wheeling, who gave a most interesting paper on "The Use of Insulin Protamine."

New officers of the Cabell Society are Dr. R. M. Wylie, president; Dr. F. O. Marple, vice president; Dr. C. B. Wright, secretary, and Dr. E. J. Humphrey, treasurer. Censors are Dr. C. G. Willis, Dr. G. A. Ratcliff and Dr. J. S. Klumpp.

Delegates to the State Meeting at Clarksburg are Dr. J. H. Moore, Dr. W. W. Strange, Dr. R. M. Sloan and Dr. F. C. Hodges. Alternates are Dr. W. C. Thomas, Dr. W. B. Martin, Dr. A. R. Lutz and Dr. F. O. Marple.

CHAUNCEY B. WRIGHT, *Secretary.*

HANCOCK COUNTY

At the recent meeting of the Hancock County Medical Society, Dr. L. O. Schwartz of Weirton was elected president, Dr. George Rigas of Weirton was elected vice president, and Dr. Samuel Berardelli of Weirton was elected secretary-treasurer. Elected to the Board of Censors were Dr. J. E. Fisher of New Cumberland, Dr. A. A. Yurko of Weirton and Dr. M. H. Powers of Weirton.

SAMUEL BERARDELLI, *Secretary.*

HARRISON COUNTY

Dr. E. B. Wright, Clarksburg, is the new president of the Harrison County Medical Society, having been elected at the recent annual meeting. Dr. E. N. Flowers was elected vice president, Dr. James G. Ralston, secretary, and Dr. W. H. Allman, treasurer.

Delegates to the State Meeting were also elected as follows: Dr. Frank V. Langfitt, Dr. H. H. Haynes and Dr. George F. Evans. Alternates are Dr. C. O. Post, Dr. Edwin Davis and Dr. J. E. Wilson.

J. G. RALSTON, *Secretary.*

KANAWHA COUNTY

The annual banquet and installation of officers of the Kanawha Medical Society was held at the Daniel Boone Hotel, Charleston, on the evening of January 14 with approximately 100 doctors and their wives in attendance. New officers of the Society who were inducted into office were Dr. Hugh B. Robins, president; Dr. E. O. Vaughan, vice president, and Dr. Claude B. Smith, secretary-treasurer. Dr. A. E. Amick was also installed as censor.

Following addresses by Dr. Robins and Dr. Ray Kessel, retiring president, the meeting adjourned and the annual dance was held in the Daniel Boone ballroom.

CLAUDE B. SMITH, *Secretary.*

LEWIS COUNTY

The regular monthly meeting of the Lewis County Medical Society was held at the Medical Center of the Weston State Hospital on the evening of January 12, 1937. Dr. Ed Trinkle, president of the society, presided at the meeting and after the regular business was completed, turned the chair over to Dr. J. E. Offner, superintendent of the Weston State Hospital, who then took charge. The scientific program of the evening was presented by the staff of the Weston State Hospital.

Dr. Everett Walker was the first speaker on the program and gave a talk on "The Problem of Psychiatry in General Practice." Dr. H. O. Van Tromp was to follow with a talk on "The Rules and Regulations Governing the Admittance of Patients in Mental Hospitals," but was unable to be present. Dr. E. von Domarus followed next, and gave a most interesting interpretation of "Dementia Praecox, Paranoid Type and Manic Depressive, Manic Type." He ably demonstrated his interpretation by presenting two clinical cases.

Dr. P. P. Pharr followed by giving a talk on "The Physical Aspects in Mental Cases." His talk was followed by the reading of an interesting and practical paper on "The Treatment of Psychotics in Mental Hospitals," by Dr. E. J. Cohn, who laid particular stress on the importance of hydrotherapy and occupational therapy in treating the mentally ill.

Dr. Offner completed the program by discussing the surgical treatment of mental cases, and related some interesting results in his experience. He also told of a new treatment of mental disorders by

prefrontal lobotomy, as introduced by Walter Freeman, M. D. and James W. Watts, M. D. of Washington, D. C.

The evening was a practical and instructive one, and the members of the society and the guests enjoyed the evening very much. At the close of the meeting refreshments were served by the good-natured ladies of the hospital.

MARION COUNTY

New officers of the Marion County Medical Society who have been installed for 1937 are Dr. J. C. Collins, president; Dr. J. R. Tuckwiller, vice president; Dr. Amos H. Stevens, secretary, and Dr. C. W. Waddell, treasurer. Delegates to the State Meeting are Dr. E. P. Smith, Dr. L. D. Norris and Dr. F. E. Flowers. Alternates are Dr. C. J. Carter, Dr. G. V. Morgan and Dr. D. D. Hamilton.

Members of the Board of Censors of the Society are Dr. J. B. Clinton, Dr. G. V. Morgan and Dr. G. H. Traugh.

A. H. Stevens, *Secretary.*

McDOWELL COUNTY

The regular meeting of the McDowell County Medical Society was called to order by the retiring president, Dr. E. Vermillion, at 8:00 p. m. on January 13, in the Appalachian Electric Power Community Hall, Welch. Dr. Vermillion introduced Dr. R. H. Edwards, the newly elected president, who gave a short address. In this address he urged that all members of the society cooperate to make this a most successful year.

A committee was appointed to counsel with the nursing staff of the local chapter of the American National Red Cross. Also a committee was appointed to use its influence in securing increased facilities at the Pinecrest Sanitarium to care for our local patients suffering with tuberculosis.

Dr. C. T. Clark of Iaeger and Dr. Robert Nelson Cooley of Coalwood were elected to membership in this society.

A delightful program was offered by Dr. C. B. Chapman which consisted of motion pictures showing "The Heart Valves of the Ox Heart in Action."

O. H. Fulcher, *Secretary.*

MERCER COUNTY

The Mercer County Medical Society met in the West Virginian Hotel, Bluefield, on December 17 for its regular annual banquet. There were sixty present, including the ladies and visitors. A musical program was rendered by a local orchestra. Following dinner there was dancing, and a very delightful evening was enjoyed by all.

Immediately after the social program our society met for the election of new officers.

Dr. Harry G. Steele gave a report of the treasury. The past few reports have shown that the treasury is being progressively depleted from year to year. A motion was made by Dr. Steele to increase our annual dues from $10 to $15 per year. This was seconded by Dr. Hoge, passed upon and carried.

Dr. Hoge presented a communication from Pinecrest Sanitarium, Beckley, West Virginia, which showed the need of additional beds at that sanitarium. A motion was made for building an additional unit at Pinecrest Sanitarium. The motion was seconded by Dr. Steele.

This being all of the old and new business to take up for the year, the floor was then open for the election of new officers. Those elected for the new year were: Dr. Frank Holroyd of Princeton, president; Dr. Ira Smith of Princeton, vice-president; Dr. O. G. King of Bluefield, secretary. Dr. Harry G. Steele of Bluefield was reelected treasurer. Dr. John Bird of Rock was elected censor for three years. Delegates and alternates to the State Convention to be held in Clarksburg next year were elected as follows: Dr. T. E. Vass and Dr. Harry G. Steele, both of Bluefield. Alternates: Dr. J. I. Markell of Princeton and Dr. Uriah Vermillion of Athens.

The Mercer County Medical Society met in the Directors' Room of the Municipal Building, Bluefield, on January 21, 1937, at 8:15 p. m. The meeting was well attended, there being about thirty-five present.

The society went on record as unanimously endorsing a bill in the coming legislature requiring compulsory vaccination for smallpox and immunization for diphtheria before or upon entrance into the school for the first time.

The following new members were elected: Dr. J. R. Shanklin, Bluefield; Dr. J. K. Rowland, Matoaka; Dr. Ben Bird, Jr., Princeton.

Dr. Steele gave a report of three cases of spinal bifida, which he had successfully operated upon.

A movie film, "Postpartum Hemorrhage", gotten up by Dr. DeLee, was shown. It stressed the early recognition of uterine hemorrhage and showed various methods of control.

Dr. John Cannaday of Charleston gave a paper on "Peptic Ulcer", which was supplemented by case histories and slides. Acute perforations were particularly stressed, and surgical care was that of a conservative nature, being merely to suture and cover the point with omentum. Dr. Cannaday went on to say that 98 per cent of all ulcer cases could be diagnosed by x-ray, and usually about 90 per cent appeared on the lesser curvature of the stomach. It was brought out in this paper that the surgical method of choice for handling ulcers in this country was that of a conservative nature, and insofar as possible, to make the operation fit the patient. The more radical procedures, such as subtotal gastrectomy, are almost routine in foreign clinics.

Dr. Archer Wilson of Charleston gave a paper on "Consideration of Certain Head Injuries." This paper was very timely, inasmuch as there is an upward trend in highway accidents. His plea was directed to general surgeons everywhere, as most of these head injuries are taken care of by general surgeons. The recent trend in treatment is to treat them first for shock and then, after a definite diagnosis, to be conservative in operative care. The only emergency surgical cases are ruptured meningeal lesions and gunshot wounds. Dr. Wilson supplemented his paper with slides and presented an unusual case of brain tumor located in the corpus medullare.

Dr. Wade St. Clair opened the discussion of the papers, and reported three ulcer cases, stressing the fact that the operative procedure should fit the patient. Drs. Scott, Vass, and Hosmer entered into the discussion of the papers.

O. G. KING, *Secretary.*

MINGO COUNTY

The regular monthly meeting of the Mingo County Medical Society was held in the King Coal room of the Mountaineer Hotel, Williamson, on the evening of December 9, 1936. The meeting was called to order by Dr. L. F. Boland, president. Dr. George W. Easley, secretary, was absent and Dr. J. C. Lawson was appointed to act in his place.

During the business session, Dr. T. D. Burgess, Williamson, was elected president for the ensuing year. Dr. G. T. Conley was elected vice president and Dr. George W. Easley was reelected secretary-treasurer. Dr. R. A. Salton was elected to the Board of Censors. Dr. S. G. Zando, Williamson, was elected to membership in the society.

Under reports of clinical cases, Dr. G. T. Conley presented a case, separation of the triceps muscle by traumatism. This was discussed by Doctors Boland, Lawson, Burgess, Hodge and Zando.

Dr. J. B. Hawes of Logan and Dr. Fred E. Brammer of Dehue, members of the Logan County Medical Society, gave interesting talks before the society.

J. C. LAWSON, *Acting Secretary.*

MONONGALIA COUNTY

The regular monthly meeting of the Monongalia County Medical Society was held at the Hotel Morgan, Morgantown, on the evening of January 5, 1937. The program was preceded by a dinner served at six o'clock. Dr. C. B. Pride, president, presided at the session and interesting case reports were presented by Dr. C. E. Johnson, Morgantown, and Dr. R. E. Pickett, Pursglove.

G. R. MAXWELL, *Secretary.*

OHIO COUNTY

The regular business meeting of the Ohio County Medical Society was held at the Ohio Valley General Hospital on the evening of December 4, 1936, with 42 members in attendance. Following the disposal of a number of business matters, Dr. W. S. Fulton, state president, and member of the Public Assistance State Advisory Board, talked on the administration of and medical participation in the new West Virginia social security setup.

The sixth regular scientific meeting of the society was held at the Ohio Valley General Hospital on the evening of December 18 with 75 members and guests present. Following routine business matters, the scientific program was taken up. The speaker of the evening was Dr. M. A. Blankenhorn, Professor of Medicine at the University of Cincinnati. He reviewed the progress in the serum

therapy of lobar pneumonia. This was very interesting and was enjoyed by everyone present. The paper was discussed by Drs. H. C. Harpfer, H. R. Sauder, R. J. Reed, Jr., H. G. Little, J. T. Thornton and H. T. Phillips.

The seventh scientific program was presented at the Ohio Valley General Hospital on the evening of January 7, 1937, with 81 members and guests present. The guest speaker was Dr. Willis S. Campbell, Director of the Campbell Orthopedic Clinic, Memphis, Tennessee. He chose for his subject, "The Physiological Treatment of Fractures." He explained the basis of bone repair and mentioned the factors which defeated the accomplishment of satisfactory results, and how they might be avoided. At the end of the discussion he exhibited a reel of pictures designed to show proper methods of immediate handling of severe injuries during transportation to the hospital. The paper was discussed by Drs. J. O. Rankin and H. G. Weiler.

Dr. J. H. J. Upham, dean of the school of medicine, Ohio State University, Columbus, and president-elect of the American Medical Association, was the guest speaker at the January 22 meeting of the society which was held at the Ohio Valley General Hospital. His subject was "The Increase in Heart Disease in Middle Life." There was a splendid turnout for this most interesting address. Discussion was opened by Dr. J. W. Gilmore, Dr. W. T. McClure, Dr. Earl Phillips and Dr. J. O. Howells.

W. M. SHEPPE, *Secretary.*

PARKERSBURG ACADEMY

The regular monthly meeting of the Academy of Medicine of Parkersburg was held at the Camden Clark Hospital on the evening of January 7, 1937, with Dr. A. R. Sidell, president, presiding. During the business session Dr. D. C. Casto was elected to honorary membership. Dr. Richard Hamilton, Dr. E. D. Moyers, Dr. R. C. Newman and Dr. T. W. Keith were elected to the Society Board of Directors.

Mr. Robert Dulin of the Parkersburg Medical and Dental Business Bureau reported upon the work of his organization in collecting delinquent accounts, after which the society voted unanimously to take over the control of the Bureau.

The guest speaker of the evening was Dr. Louis A. Lurie, Associate Professor of Psychiatry, University of Cincinnati, who presented a very interesting and instructive discussion on "Endocrinology and Modern Medicine." Following the discussion he brought out several interesting points with the aid of lantern slides and röentgenograms of patients suffering with endocrine imbalance.

BERLIN B. NICHOLSON, *Secretary.*

RALEIGH COUNTY

The Raleigh County Medical Society held the regular monthly meeting Thursday, January 21, at the Beckley Hotel. A dinner preceded the meeting which was attended by thirty-five members and guests.

Dr. R. O. Halloran, Charleston, spoke on the subject of "Drug Eruptions and Contact Dermatitis." The lecture was most interesting and instructive. A liberal discussion followed.

Dr. R. L. Brown, Springfield, Ohio, demonstrated the Ellis microdynamic machine.

Dr. Claude A. Smith, Raleigh; Dr. C. R. Layton, Price Hill, and Dr. Everett B. Wray were accepted as new members.

L. M. HALLORAN, *Secretary.*

DETERIORATION OF HEARING

Deterioration of hearing is far more prevalent than is commonly believed, Dr. Walter A. Wells declares in his article, "You Call Them Deaf," appearing in the January *Hygeia.* He says the introduction of the audiometer has brought this discovery to light. Systematic examinations of large groups in all classes show that about one out of every ten persons has a notable impairment of hearing in one or both ears.

All cases of impaired hearing fall roughly into two classes: namely, those due to diseases which affect the nerve of hearing and those due to diseases in that part of the auditory organ which is concerned with conducting the sound to the nerve. Loss of hearing because of the former trouble is but slightly susceptible to help either by treatment or by hearing aids, while the conductive type can often be helped by treatment and always by hearing aids.

Hearing aids are not more generally used because they have not been selected with discrimination. Patients who are not suitable subjects are induced to use them by selling agents. These persons are also reluctant to reveal they have such a defect.

GENERAL NEWS

CONFERENCE OF SECRETARIES

The annual conference of County Society Secretaries and Presidents was held at the Association headquarters in the Public Library Building, Charleston, on January 12, 1937, with almost all of the component societies of the state represented. Dr. A. G. Lanham, Ronceverte, secretary of the Greenbrier Valley Medical Society was selected as permanent chairman and presided over the session.

The conference was opened by Mr. Joe W. Savage, state secretary, with a short talk on legislation and various conference announcements. He was followed by Dr. B. H. Swint, chairman of the Association Medical Advisory Committee, with an explanation of the new Social Security setup for West Virginia. This brought out many questions and much discussion.

Dr. Thomas H. Blake concluded the morning program with a talk on "Infant and Maternal Welfare in West Virginia", in which he outlined the work which was being done by the Association's committees on Infant and Maternal Welfare. After Dr. Blake's address, the conference recessed for luncheon at the Daniel Boone Hotel.

The afternoon program was opened by Senator A. G. Mathews, Workman's Compensation Commissioner, who spoke at some length upon the method of settling disputed compensation medical claims through the Association's Compensation Advisory Committee. He was followed by Mr. Ralph Hartman, secretary to Senator Mathews, who talked on the various phases of medical participation in the compensation fund.

Dr. Berlin B. Nicholson of Parkersburg, secretary of the Parkersburg Academy of Medicine, gave a most interesting talk on the management of the average county medical society. He demonstrated his society's system of keeping records, making up programs and dealing with business problems. His paper was liberally discussed by most of the secretaries in attendance.

The conference was closed with an address by Dr. W. S. Fulton of Wheeling, Association President, who urged upon all present the necessity for close and wholehearted coöperation with the Association in the many economic problems which confront the medical profession today. Dr. Fulton placed particular stress on the new social security act and its great effect upon the practice of medicine.

Those attending the conference included Dr. Fulton, Dr. Nicholson, Dr. Blake, Dr. Swint, Dr. Lanham, Dr. A. R. Sidell of Williamstown, president of the Parkersburg Academy of Medicine; Dr. T. F. Farley, Holden, secretary of Logan County; Dr. L. M. Halloran, Beckley, secretary of the Raleigh Society; Dr. W. C. Boggs, Cameron, president, and Dr. J. A. Striebich, Moundsville, secretary of the Marshall Society; Dr. J. C. Collins, Fairmont, president, and Dr. A. H. Stevens, Fairmont, secretary of the Marion Society.

Dr. A. V. Cadden, Hopemont, president of the Preston Society; Dr. J. L. Woodford, Philippi, president, and Dr. Guy H. Michael, Belington, secretary of the Barbour-Randolph-Tucker Society; Dr. W. T. Booher, Wellsburg, secretary of Brooke County; Dr. H. C. Jones, Montgomery, president, and Dr. Gilbert Daniel, Gauley Bridge, secretary of the Fayette Society; Dr. W. A. Flick, Keyser, president, and Dr. E. A. Courrier, Keyser, secretary of the Grant-Hardy-Hampshire-Mineral Society; Dr. R. L. Hunter, Madison, secretary of the Boone Society; Dr. George W. Easley, Williamson, secretary of the Mingo Society; Dr. Theresa Snaith, Weston, secretary of the Lewis Society; Dr. A. B. Bowyer, Buckhannon, secretary of the Central West Virginia Society; Dr. W. M. Sheppe, Wheeling, secretary of the Ohio Society; Dr. Claude Smith, Charleston, secretary of the Kanawha Society; Dr. Ward Wylie, Mullens, secretary of the Wyoming Society; Dr. L. G. Houser, Beckley, president of the Raleigh Society and Dr. Chauncey B. Wright, Huntington, secretary of the Cabell Society.

OBSTETRICAL CLINICS PLANNED

Members of the West Virginia Obstetrical and Gynecological Society, through Dr. Harry G. Steele, president, have been invited to attend a series of special obstetrical and gynecological clinics to be conducted for society members in Baltimore on March 2, 3, 4, 1937. About 12 to 15 members of the society are expected to go on this pilgrimage to Baltimore and all those who are interested are instructed to get in touch immediately with Dr. Steele at Bluefield or Dr. Ed Humphrey, Box 317, Huntington. Dr. Steele has announced that a few non-members of the Obstetrical Society, specially interested in obstetrics and gynecology, could be included.

The schedule for the three day clinics follows:

March 2, from 9 until 12:30 o'clock at Sinai Hospital. Operations by Dr. A. Samuels, Dr. Alfred Ullman and Dr. A. E. Goldstein. Talk by Dr. Charles Austrian on medicine pertaining to gynecology and obstetrics. Luncheon. Afternoon session at University of Maryland Hospital. Dr. Louis Harriman Douglass on obstetrics.

March 3, Mercy Hospital beginning at 9 o'clock. Operations by Dr. A. Samuels, Dr. Thomas Galvin and Dr. Walter Wise. Luncheon at 12:30 o'clock. At 2 o'clock Dr. Edlow on organotherapy. Operations by Dr. Passagno and Dr. A. C. Gillis on "Urology Related to Gynecology and Obstetrics."

March 4, from 9 a. m. until 5:30 p. m. at Johns Hopkins Hospital. The morning will be devoted to operations, various papers and demonstrations in gynecology, with Dr. Thomas S. Cullen in charge. Dr. Howard A. Kelly will do the first operation. The morning session will also include a discussion on the use of radium in cancer of the uterus and in myoma cases. Luncheon at 12:30 o'clock given by Dr. Cullen and Dr. Eastman. Dr. Eastman and his associates will have charge of the afternoon program, which will be filled with many interesting phases of this branch of medicine. Dr. Emil Novak will give a roundtable discussion on endocrines.

CANCER EXPLOITS

Declaring that at no other time had so-called cancer "cures" and "preventives" been so boldly and subtly exploited, the Executive Committee of the American Society for the Control of Cancer issued a formal warning recently to all persons against relying for cancer therapy on "glandular substances", "secret chemical formulæ", "antitoxins", or "diet".

Early and accurate diagnosis and prompt treatment by surgery, radium, or x-rays offer "the only present hope of cure from cancer", the society said.

In making public the statement, Dr. C. C. Little, managing director, declared that it was the first such public formal warning issued by the society. It was drafted, he said, and approved after long consideration by the executive committee. "This statement was issued", Dr. Little added, "to answer the increasing number of queries received by the society from laymen and from general physicians throughout the country. The lay educational activities of the Women's Field Army have aroused wide general interest in the problem of cancer control and it is important to prevent the exploitation of that interest by unreliable or unscrupulous individuals."

The full statement read:

"With the extension of the cancer problem to include the fields of biology, chemistry and physics, as well as its former terrain within the practice of the medical profession, new dangers have arisen.

"These dangers are the wide and varied assortment of 'cures' and 'preventives' claimed by a number of individuals in many parts of the world. At no other time have these 'cures' been so boldly and subtly exploited.

"The amount of scientific training and of honest conviction in the value of their work, possessed by the persons making these claims undoubtedly varies. There is, however, a mechanism by which these cures can be tested without detracting from the credit of the discoverer. This is by asking cancer research laboratories and leading medical schools to evaluate the discovery in the same way that insulin was introduced to the public.

"Consequently, the American Society for the Control of Cancer wishes to point out the following warnings:

"(1) That, with the possible exception of the relation of certain ovarian secretions to breast cancer in mice, biological or chemical experiments have so far failed to give evidence that, in its opinion, justifies the use of glandular substances in cancer prevention of therapy.

"(2) The society also remains definitely opposed to the use of all secret chemical formulæ and biological substances administered in any way as preventives or in treatment.

"(3) It has found no evidence of the value in diagnosis or treatment of antitoxins, sera or other substances developed on the theory that microorganisms or viruses cause or cure cancer.

"(4) It has found no diet that will cure, prevent or in any way influence the course of cancer.

"(5) Because of tragic consequences, it warns all persons against relying on any of these methods.

"(6) It reaffirms its statement that in early and accurate diagnosis and in prompt treatment by surgery, radium or x-rays lies the only present hope of cure from cancer."

The members of the Executive Committee of the American Society for the Control of Cancer are Dr. James Ewing, chairman of the Board of Di-

rectors of the society, Memorial Hospital, N. Y.; Dr. Robert B. Greenough, president of the society, Massachusetts General Hospital, Boston, Mass.; Dr. E. B. Wilson, vice president of the society, Harvard University School of Public Health; Calvert Brewer, treasurer, N. Y.; Dr. Burton T. Simpson, New York State Institute for the Study of Malignant Disease, Buffalo; Dr. James B. Murphy, Rockefeller Institute for Medical Research, N. Y.; and Dr. Howard C. Taylor, Roosevelt Hospital, N. Y.

The American Society for the Control of Cancer, composed of physicians and laymen, is the only national educational body dealing with cancer and serving both physicians and laymen. It was formed in 1913 "to disseminate knowledge concerning the symptoms, diagnosis, treatment and prevention of cancer, to investigate the conditions under which cancer is found and to compile statistics in regard thereto." At the present time it is devoting its energies to its first nation-wide lay educational campaign through its Women's Field Army which is underway in thirty-eight states. The Army is backed by the National Council of Women, the General Federation of Women's Clubs, and other national organizations.

A. P. H. A. MEETING

The American Public Health Association announces that its 66th Annual Meeting will be held in New York City, October 5-8, 1937.

A large eastern membership will receive that information with satisfaction. Not since 1921 has the Association met in the world's greatest city.

The 65th Annual Meeting took place in New Orleans in October. It attracted an attendance of 1,650 health authorities representing 45 states, Canada, Cuba, Mexico and nine other foreign countries. The officers of the Association are reminding themselves of this registration in a state where the membership numbers less than 100 and asking themselves what the registration will be in New York City where the membership counts up to nearly 500 within the city limits alone. An overnight's ride will enable more than one-half of the Association's 5,000 members to attend the convention.

The National Organization for Public Health Nursing will meet with the American Public Health Association in 1937 for the first time. This organization is expected to add another thousand to the registration lists.

The following related societies will meet with the Association as usual:

The American Association of School Physicians; International Society of Medical Health Officers; Conference of State Sanitary Engineers; Conference of State Laboratory Directors; Association of Women in Public Health; Delta Omega.

Dr. Reginald M. Atwater is the executive secretary of the Association, and the headquarters offices are at 50 West 50th Street, New York, N. Y.

POST GRADUATE CLINIC

The Fifth Annual Post Graduate Clinic of the George Washington School of Medicine is to be held this year on Saturday, February 20. Clinics will be held, papers will be presented, laboratories will be open for inspection, and luncheon will be served, all at the medical school and hospital.

The university and medical school extend a cordial invitation to all alumni of the medical school, all members of the George Washington Society, and to all physicians who will be interested in attending the meeting.

The banquet of the George Washington Medical Society will be held the same evening at the Mayflower Hotel.

POSTGRADUATE INSTITUTE

"Diseases of the Chest and Upper Respiratory Tract" will be discussed at the Second Annual Session of the Postgraduate Institute of The Philadelphia County Medical Society, April 12 to 16, 1937 in Philadelphia.

The subject to be considered is of great interest to general practitioners and its various ramifications will be ably discussed by fifty Philadelphia physicians, each one a qualified teacher, who will speak with authority. A scientific exhibit and clinical demonstrations will add to the value of the program. The Second Annual Session of the Postgraduate Institute undoubtedly will constitute the year's outstanding sectional scientific medical meeting in the east.

Members of all county medical societies are cordially invited to register as annual members of the institute and to attend its scientific sessions.

Further information will be furnished by the secretary of your society or upon application to the Executive Office of The Philadelphia County Medical Society, 21st and Spruce Streets, Philadelphia, Pennsylvania.

ADMINISTRATION OF MEDICAL RELIEF

(NOTE—The following statement of policy, together with rules and regulations pertaining to medical relief, is quoted verbatim from the Manual of Procedure issued by the Department of Public Assistance to the County Relief Administrators.)

While Section 1, Article VI, Chapter 9, of the Public Welfare Law of 1936, declares general relief to be primarily a financial responsibility of the county, the fact remains that most of the counties must look to the State General Relief Fund for supplementary revenues to support their general relief programs. The State General Relief Fund, administered by the State Department of Public Assistance bears three-fourths of the expenses of general relief throughout the State. Therefore, for this reason, and because certain sections of the Public Welfare Law of 1936 require the State Department to prescribe uniform rules and regulations for administration of specific services under the general relief program, the State Department of Public Assistance and the State Advisory Board of Public Assistance join in suggesting the following procedure for administration of *medical relief and relief hospitalization.*

In the preparation of the suggested procedure hereinafter to be set forth, the experience and guidance of the State Medical Association's Committee on Medical Relief have been utilized, and that committee's advice and helpful cooperation are gratefully acknowledged, as well as the cooperation accorded by the officers of the State Hospital Association.

It is to be hoped that the organization plan and the procedure hereinafter to be suggested will be adopted uniformly by all county departments in the interest of harmonious relationship as between the county departments, the relief clients involved, the medical profession, and the hospitals.

Recognition of the relationship existing between the patient and his physician should play a prominent part in the formulation of policies and programs in the field of medical relief. While the services of physicians in private practice should not be used in counties or cities where physicians are regularly employed at public expense to care for the indigent sick, it should be the prevailing policy in all other instances to provide, insofar as possible, medical care to the patient through his own physician. Likewise, where two or more hospitals in the same community are approved for care of the indigent sick, the patient should be permitted reasonable choice of the institution in which he would be hospitalized.

Section II, Article VI, Chapter 9, of the Public Welfare Law of 1936, provides that "health officers, physicians and nurses employed by the county shall, at the request of the county council, make home visits to indigent persons." This provision of the statute presents a problem which must be recognized and every effort made to approach a solution in a manner which will not involve the state and county health departments in difficulties which would impair their usefulness in the field of medical practice for which they are obviously intended —preventive medicine. In other words, county councils should not confuse the "county physician" with the "county health officer," and in no circumstance should the "county health officer" be called upon to perform services in a field of medical practice foreign to that for which the office was created. Nevertheless, it would be the part of wisdom for county councils to work in close harmony with the county health officers and consult with them on sanitation problems and other related subjects, to the end that communicative diseases and illness resulting from unsanitary conditions might be minimized. In instances where a nurse or nurses are employed by the county, the same definition of available services must be applied. If the nurse is employed by the county health unit for services in the field of preventive medicine, she should not have her usefulness in that field impaired by being required to divert her attentions to other endeavors. In fact, county councils should avoid entirely requesting county health officers and nurses in their employ to perform services in the field of family illness (other than communicable cases), for to do so would impair the efficiency of these officers in the field of preventive medicine, and would probably disqualify the State Health Department from participation in the services and federal funds supplied by the United States Health Service.

The Council of the West Virginia State Medical Association has approved any medical service plan

which will embrace the following policies:

"1. Insofar as it is practicable, every patient should have the privilege of selecting his physician and hospital.

"2. Patients who have no choice should be assigned in rotation to those doctors who signify their willingness to receive such assignments.

"3. Every doctor in the respective county medical societies should have the privilege of contributing his share of the medical care of those persons eligible to receive medical relief.

"4. In the larger counties the County Director should maintain 24-hour service in his office in order that needed medical service may be authorized at any time.

"5. Except in emergencies, patients classified as indigent should not be given medical, surgical or hospital care unless they present written authorization for the same from the office of the County Director.

"6. Emergency cases should be treated immediately and authorization requested within the next 48 hours.

"7. If it is necessary to employ a consultant he should be paid the usual first visit fee.

"8. A complete record of all medical services should be kept in the County Director's office, and when the occasion arises, a notation in regard to criticisms or complaints coming from either the doctor or the patient should be incorporated in the record.

"9. The members of the Medical Association are willing to contribute their services with the understanding that their remuneration will be only a fraction of the normal fees. The schedule of payments for services to the indigent does not constitute a precedent for any other fee schedule. It does not represent adequate compensation for services rendered, but, on the other hand, serves to indicate the willingness of the physicians to contribute their share toward a great humanitarian movement.

"10. In view of the fact that physicians are willing to render services for small fees in order to reduce the cost of medical care, they feel that other agencies contributing to this work should be called upon to make minimum charges also. Arrangements should be made so as to obtain medicine at cost plus a very nominal profit. When a doctor dispenses his own medicine, there should be a modest allowance on that account.

"11. The physicians providing medical relief services should be reminded from time to time that the costs of medications may be reduced by prescribing simple remedies from the pharmacopœia rather than the more expensive proprietary medicines. Prescriptions for unusual drugs should not be filled without definite authorization.

"12. Ambulatory patients should be sent to the doctor's office and thus eliminate unnecessary house calls.

"13. Special Medical Advisory Committees of the County Medical Societies are in a position to give the County Directors and the County Councils very valuable assistance in matters involving technical details or medical usage. It is suggested that the County Director and other interested agents of the County Departments of Public Assistance have regular, scheduled conferences (perhaps once a month, or more often), with the members of the County Medical Society Advisory Committees. At such conferences the Director should present the problems which have arisen within the period between the dates of such meetings. Some of these problems would be as follows:

"a. The authorization of special prescriptions.

"b. The authorization of continuous attention for patients suffering chronic diseases.

"c. The question of equitable compensation for unusual cases.

"d. The curtailment of medical or drug bills which appear to be excessive and unjustified.

"e. The problem of allocation of medical and hospital assignments."

The State Department of Public Assistance recognizes the soundness of the basic policies and procedures suggested by the Council of the State Medical Association, and insofar as they are in conformity with the provisions of the Public Welfare statute and sound public policy, they are recommended to the County Councils, and are resorted to herein as the basis for the organization plan and methods of procedure suggested.

Proposed Organization Plan: In the interest of promoting efficient and economical medical and hospital service programs in the several counties, it is suggested that the County Departments of Public Assistance call upon their respective County Medical Societies to appoint advisory committees to assist in the development of suitable plans and procedure of administration.

The State Medical Association has been requested by the Director of the State Department of Public Assistance to continue its Advisory Committee on Medical Relief to advise with him on medical service problems. This committee has already performed valuable services in suggesting suitable procedure and in the matter of arranging fee schedules.

County councils, no doubt, will find County Medical Advisory Committees suitable agencies through which to arbitrate differences as between the county departments of public assistance, individual medical practitioners and individual hospitals, on policies and fee charges in individual cases. The State Department expects to maintain its relationship with the State Medical Association committee for the same purposes, in addition to utilizing that group for services of an advisory nature which such a committee would be best qualified to perform.

With such professional advice available to both the state and county departments, the county departments should then turn to effectuating proper administrative machinery within their own organization.

In the larger centers it is suggested that some member of the county department staff be placed in charge of the medical relief program, and that day and night authorization service be made available to relief clients and those other persons entitled to temporary medical care and hospitalization as hereinafter set forth in the section on "eligibility."

Eligibility: The following citations from the Public Welfare Law of 1936 relating to eligibility and services contemplated for persons "actually in need" and not having "sufficient income or resources to provide a subsistence compatible with decency and health," are pertinent in the consideration of the subject of medical relief:

Section 10, Article V, Chapter 9:

"*Additional Aid.* A recipient of public assistance (old age assistance, aid to the blind, and aid to dependent children) under this article shall receive no other public aid, *except* temporary medical or surgical care, without the approval of the county council of the county where the recipient resides. Such approval shall be subject to the rules and regulations of the State Department."

Where the grant of public assistance is inadequate to pay the costs of necessary medical, surgical or hospital services, the county council may authorize the performance of such services for a person who is receiving public assistance in one of the three classified forms, the costs of such emergency or temporary services to be paid from the general relief funds.

General relief is defined as meaning "care and assistance to an indigent person who is a resident of the county and who is in fact in need of medical or surgical care whether in an institution or in his home. A person financially able to maintain himself under ordinary conditions, but unable to provide necessary medical or surgical care or treatment shall be eligible for general relief.

This provision is construed to mean that the county council may authorize medical or surgical care and hospitalization for a person who may be financially able to maintain himself (and his family) but is unable to procure medical, surgical or hospital services by reason of financial incapability to this additional extent.

Provision is made for hospitalization as follows:

"Sec. 12. *Hospitalization.* A county council shall, under the rules and regulations of the state department, designate one or more public or private hospitals, approved by the state department, for the medical and surgical care of indigent persons in the county.

"Except as provided in section thirteen of this article, the payment of hospital costs shall be authorized by a county council only when the indigent person is admitted upon order of the council or of the county director.

"Sec. 13. *Emergencies.* If, in an emergency, an indigent person is admitted to a hospital without order of the county director, the hospital shall not receive payment for the services rendered unless the hospital, within forty-eight hours after the admission, sends to the county council of the county in which the person resides a report of the facts of the case, including a statement of the physician in attendance as to the necessity of immediate admission of the person to the hospital; and then, only if the county council assumes the cost of the services rendered.

"If the hospital does not know the residence of the indigent person, the county council of the county where the person resides, when such residence is finally determined, may assume the cost of services rendered, although the report required by this section was not made.

Physicians' Services: In instances where a full-time county physician is not employed for care of the indigent the county council should authorize service by all physicians in the county licensed to practice medicine in the State of West Virginia by the State Public Health Council.

Services should be limited to:

1. Visits in the home. (a) For the acutely ill; (b) For obstetrical cases; (c) For emergencies.

2. Office visits. (a) To complete treatments begun when the patient was ill at home; (b) For ambulatory cases.

3. Hospitalized cases. (a) For the acutely ill; (b) For emergency obstetrical cases; (c) For emergencies.

Medical care for prolonged illnesses, such as cancer, diabetes, chronic rheumatism, chronic heart disease, asthma, tuberculosis, etc., should be authorized on an individual basis and visits should be limited to meet minimum needs only.

Authorization for obstetrical care implies that such care should include three prenatal visits one month apart; attendance at delivery in the home; and the necessary postpartum visits, not more than two except in cases of necessity.

Services of the physician in cases requiring hospitalization, or services of a surgeon, if surgical services are required, should be authorized as sparingly as possible, yet with due regard for the professional integrity of the doctor who declares hospitalization to be necessary.

Cases requiring x-ray services should be referred, wherever possible, to the institutions employing full-time röentgenologists, or having a röentgenologist on the staff.

Physicians' Fees: As stated previously, it is recognized that the fees indicated below are not commensurate with the prevailing medical fees in the State, but they are, however, the maximum charges which should be allowed in view of relief funds available:

1. Visits in the Home:

First house call (6 a. m. to 11 p. m.) $2.00
(11 p. m. to 6 a. m.) 3.00
Subsequent house calls 1.00
Consultations 2.00
Mileage allowance: Five cents per mile each way.

2. Office Visits:

First office visit 1.00
Subsequent office visits ..... .50

3. Obstetric Cases:

Delivery 15.00
Prenatal calls (maximum of 3) 2.00
Postnatal calls (maximum of 2) 2.00

Response to Calls: The physician should be expected to respond to calls as promptly as possible. If the physician finds it impossible to respond to an emergency call, the county director's office should be notified so that another doctor can be called.

When a physician responds to a call in emergency or when the county relief office is not open, *i.e.*, nights, Sundays and holidays, the physician must, within 48 hours, ask for authorization for the call and will be paid in the regular manner hereinafter to be described if the patient is eligible to receive medical relief under the terms of the provisions of the Public Welfare Law of 1936 as quoted in the foregoing section on eligibility.

Prescription for Medicine: Physicians should be required to use a formulary which excludes expensive drugs where less expensive drugs may be used with the same therapeutic effect. Proprietary, or patent medicines shall not be used, thus avoiding excessive expenditures for remedies of unknown value. Payment should be made only for drugs and medicines listed in the National Formulary or the United States Pharmacopœia, and a limit of fifty (50c) cents should be placed on drugs in each case unless special authorization is procured by the physician of the county department for expenditures in excess of that amount in special cases. Routine drugs and medicines for hospitalized patients are to be provided by the hospital, and the charges therefor are included in the flat per diem rate hereinafter stipulated. Special medicines, serums and solutions for hospitalized patients are to be provided by the hospitals at actual cost and no more.

Procedure for Procurement of Physicians' Services: When a person eligible to receive medical relief (as stipulated in the section on "eligibility" of this manual of information) requires the services of a physician, such eligible person, or a member of his/her family, should communicate with the county department of public assistance office through which he/she receives general relief, or public assistance, or would be eligible to receive general relief or public assistance. Written authorization for the physician's services should be issued to the physician in duplicate on a special form for that purpose.

(The State Department of Public Assistance has had printed a supply of Form MR-1, a copy of which is included in this manual, and will make available to the counties their necessary supply in the event the procedure herein outlined is adopted by the county council.)

If the county council retains a salaried physician for care of the indigent sick and injured, the authorization for necessary services must be forwarded to that physician. If the county council does not retain a salaried physician and approved any duly licensed physician in the county for care of the indigent, and wishes of the patient shall be gratified with respect to his choice of his own physician, and authorization may be forwarded to that physician to the patient's choice. If that physician cannot respond to the call, he should so notify the county director's office, and authorization should then be forwarded to another physician by the county director.

In emergencies, when the county director's office is not open for the purpose of granting authorization, a physician may answer the call of the patient at his discretion, but if he expects reimbursement he should be required to ask for authorization for the call made within 48 hours thereafter, and if the patient treated is found to be eligible by the county office and the treatment is approved by the county council, the physician should be paid in the regular manner to be described hereinafter.

When more than one case of illness exists in a family the fee for care is one-half of the fee for seeing the first case.

When the county department of public assistance pays for medical care on any case it is understood that the relief client or recipient of classified public assistance will not be required to pay an additional fee out of the relief allowance or grant of public assistance.

If a special diet is necessary, a written statement specifying the amount and kind of food needed should be forwarded to the county director's office by the attending physician.

Within *one week* after completing authorized medical or dental service, the physician or dentist should be required to forward the requisition form (MR-1) provided to the county office. No bill should be paid unless the form is completely filled in, and presented to the proper authority within the specified time.

FROM OTHER JOURNALS

EYES IN DANGER

They tell us that more than 20,000,000 pairs of "fit-overs," "sun goggles," "glare fighters," "eye-easers"—or what have you—are sold each year to the American public. The unsuspecting public buys them in department stores, 5 and 10 cent stores, drug stores, cigar stores, automobile supply stores, "hot dog" stands—all sort of retail outlets where the main objective seems to be to sell at a lower price than the next fellow and to disregard completely all standards of quality.

And this process is easy—and being made easier. The result is that the American public goes abroad using, before their eyes, lenses which fall far short of even the minimum requirements for adequate and safe protection against the hazards of excess light.

There are various results—all unfortunate results—from this sort of operation.

The first bad result is readily seen when you examine closely the lenses provided in these so-called "eye protectors." You see them on trains, on beaches, in boats and on the street—all over. The lenses in most cases are so badly aberrated, so full of marked distortion of various kinds that people should never be permitted to wear them before "the only pair of eyes they will ever have." It is no wonder, indeed, that people who wear these cheap goggles complain of headaches—and build up the drug stores' sale of aspirin and similar remedies —when the cause is nothing more than the lenses they have placed before their eyes.

It surely seems that the Connecticut example of a law rigidly prescribing who may and may not dispense optical merchandise is a most promising step in the right direction—an example which should be followed by every state in the union.

Another unfortunate result of this sudden craze for glare protection is that, in many, many cases, the good work of the careful refractionist and dispenser is upset by the use of low-grade and damaging lenses. The best refraction and the best fitting cannot possibly produce results if the patient places before those lenses a cheap fit-over with lenses at which any optical man would laugh derisively.

It is exactly for these reasons that the Soft-Lite Lens Company produced the Sport-Lite and the Overglass.—*Guildcraft*, Sept., 1936.

POINT ON MALPRACTICE

A recent issue of *The Ohio Bar Association Report* contains an appellate decision (53 Ohio App. 229) which is of especial interest to physicians.

The action arose out of a suit for alleged malpractice, in which the plaintiff claimed that the defendant—a physician—"did not use due and proper care or skill in endeavoring to discover the cause of plaintiff's illness in making a diagnosis thereof, examining her and recommending the kind of treatment necessary to cure plaintiff of said illness."

In the lower court, the defendant moved for an instructed verdict for acquittal. This motion was overruled. The jury disagreed. Counsel for the physician carried the case to the district court of appeals, claiming that the lower court erred in refusing to direct a verdict in his favor.

A syllabus of the decision of the appellate court in upholding the lower court and remanding the case for further proceedings, follows:

1. A physician may be liable for damage in a malpractice case as a result of a wrong diagnosis, honestly arrived at, when that diagnosis is followed by treatment for the incorrect ailment which injures his patient. He may act through ignorance of what are ordinary care and diligence, yet be honest in his motive, his conclusions and his diagnosis, or he might stubbornly disregard the conclusion of many other medical men, yet be honest in his interpretation of the patient's symptoms.

2. Where a physician incorrectly diagnoses his patient's pregnancy as gall-bladder trouble and subsequently treats, or causes his patient to be treated for the incorrect ailment whereby the patient is injured, the question as to whether the physician has used due care and diligence in making the diagnosis is one of fact for the jury where there is more than scintilla of evidence which tends to indicate the absence of such care and diligence. Evidence that the physician knew that other medical men had diagnosed the symptoms differently is more than such scintilla of evidence. — *Ohio State Medical Journal.*

WORK OF COMMITTEES

By this time most of the county medical societies have organized for the coming year. The importance of selecting well-qualified and alert officers has been emphasized in these columns. Now, it would seem appropriate to say a word about committees, committee appointments and committee activities.

Following are some points which should be borne in mind by those charged with the responsibility of appointing committees and those selected to serve on them:

1. As many members as possible should be utilized for committee service. Give a member something to do and he will be a more valuable member of his society.

2. At the same time, unnecessary committees should not be appointed. If a committee has nothing to do, members will lose interest. Too many committees make organization machinery cumbersome.

3. When a member takes a committee assignment he should be prepared to undertake the work in a serious manner or retire. Each committee is obligated to serve faithfully and do something worthwhile.

4. Every committee member should be willing to do his share of the work and not let a few faithful members shoulder all the duties and responsibilities.

5. Personal feelings should be subordinated in favor of decisions for the best interests of the profession as a whole.

6. Committee meetings should be attended religiously.

7. Members should familiarize themselves with the topics scheduled for discussion before the meeting, if possible, to facilitate proceedings.

8. Frank discussions, carried on without personal prejudice and bias, will lead to greater efficiency and accomplishments.—*Ohio State Medical Journal.*

CONTROL OF SYPHILIS

The weapons with which to reduce syphilis from a major to a minor public health menace within a generation are available, and these were made possible through the efforts of fourteen men, the lives and experiments of whom are recounted by Dr. Joseph Earle Moore in his article, "The Modern Background of Syphilis Control," in the January *Hygeia.*

These men provided for ready recognition of the disease and a knowledge of the mechanism of infectiousness and of its prompt control, completely lacking thirty years ago.

WOMAN'S AUXILIARY

BOONE COUNTY

The Boone County Medical Society Auxiliary was organized on Tuesday, January 19, 1937 at the home of Mrs. H. H. Howell at Madison, West Virginia. Mrs. M. F. Petersen, Charleston, represented the State Auxiliary. The following officers were elected:

President, Mrs. W. V. Wilkerson, Highcoal; first vice president, Mrs. H. H. Howell, Madison; second vice president, Mrs. A. E. Glover, Van; third vice president, Mrs. F. G. Prather, Wharton; secretary and historian, Mrs. Harry Chambers, Whitesville; treasurer, Mrs. C. E. Lewis, Nellis; legislation, Mrs. W. F. Harless, Madison; hygeia, Mrs. W. L. Barbour, Whitesville, and Mrs. E. R. Calsee, Whitesville; public relations committee, Mrs. R. L. Hunter, Madison; Mrs. A. H. Derrick, Seth; Mrs. J. A. Newcome, Prenter; Mrs. D. F. Pauley, Jeffrey.

KANAWHA COUNTY

The Kanawha Medical Society Auxiliary convened on December 8, 1936 at the Y. W. C. A. The meeting was in charge of Mrs. W. S. Shepherd, chairman of the Public Relations Committee. Seventy-five members and guests attended the meeting.

The program consisted entirely of an illustrated address by Dr. Hugh Robins on "Syphilis." The meeting was a fine success, well attended and most interesting.

The Auxiliary will meet again on January 10, at 1:00 p. m. for a luncheon.

Mrs. Claude B. Smith, *Secretary*.

LOGAN COUNTY

The Auxiliary to the Logan County Medical Society held its January meeting on the fifth, at the home of Mrs. J. L. Patterson, Holden, W. Va., with Mrs. F. L. Round as assistant hostess; Mrs. J. L. Patterson presiding.

Mrs. Harold Van Hoose spoke to the group on "Doctor's Hobbies." This subject was in keeping with an exhibit planned by the State Auxiliary for the Clarksburg meeting to be held in May of this year.

Mrs. Walter E. Brewer resigned as secretary and Mrs. F. L. Round was appointed to take over

HYCLORITE

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the duties of this office.

The next meeting of the Logan Auxiliary will be held at the home of Mrs. B. D. Smith at Omar, W. Va. Mrs. Dana Moore of Stirrat and Mrs. Smith will be co-hostesses.

MRS. F. L. ROUND, *Secretary.*

MARION COUNTY

The Auxiliary to the Marion County Medical Society met on December 29, 1936, at the Fairmont Hotel. Mrs. E. P. Smith presided. Twenty-one members were present.

Mrs. L. L. Bailey addressed the group and had for her subject "Mexico." Mrs. E. P. Smith gave a short lecture illustrated with pictures of her recent trip to Mexico. Both ladies presented their subjects most interestingly.

The January meeting of the Auxiliary is scheduled for the twenty-sixth and is to be held at the above location.

MRS. J. R. TUCKWILLER, *Secretary.*

PARKERSBURG

The Parkersburg Auxiliary met on January 12, at the Y. W. C. A. with Mrs. Arthur Knott the presiding officer. Twenty-five members attended.

Mrs. S. M. Prunty spoke to the Auxiliary on "Activities of the Women's Auxiliaries." Mrs. Arthur Knott, president, led a general discussion of the address.

During the business session the weekly project of the Auxiliary, namely, the making of dressings and mending and sewing at both Parkersburg hospitals, was discussed along with ways and means of obtaining new subscriptions to *Hygeia.* All organizations in the city will sell tickets to the President's Ball and the Auxiliary will, of course, sell its quota.

Mrs. Arthur Knott and Mrs. E. C. Hartman will entertain the Auxiliary for luncheon at Mrs. Hartman's residence the second Tuesday in February.

MRS. BEN ROBINSON, *Secretary.*

BACTERIA IN MOUTH

More bacteria are found to be present in the mouth in the morning immediately on arising than at any other time during the day, according to experiments reported by N. Kobrin, D.D.S., in "War on Dental Decay," which is currently appearing in the January *Hygeia.*

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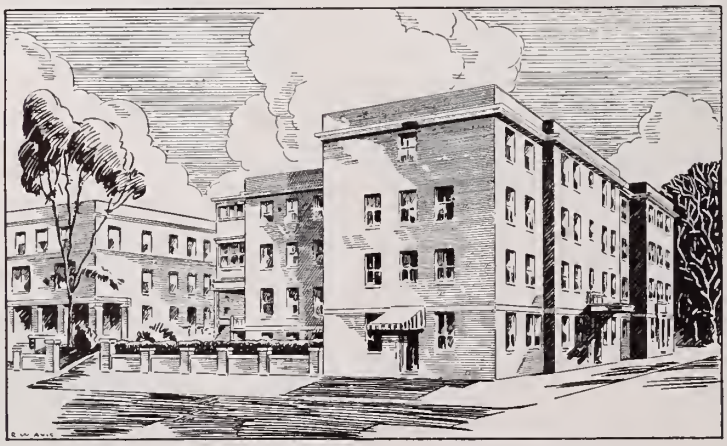

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Miss Myrtle Mullins, Instructress ::-:: Winifred McWhirter, Night Supervisor.

DANGERS OF SKIING

Like all vigorous outdoor sports, skiing has a certain element of danger, but one far less serious than the nonskier is inclined to believe, Dr. Walter Mosauer avers in "Skiing and Its Health Aspects" in the January issue of *Hygeia*.

However, every serious skier ought to be familiar with first aid measures and carry an adequate kit at all times. Of course it is possible to a certain extent to guard against several typical ski injuries; a general rule is not to exceed one's limitations of technique and to avoid skiing out of control. Most severe injuries happen to overdaring, foolhardy skiers with little regard for proper style.

The inclusion of gloves or mittens in the ski costume is essential, especially in warm weather on granular spring snow. Skinned knuckles on the fingers will result if they come into contact with this snow. These abrasions, more or less deep, heal only slowly, because the flexing and straightening of the fingers in every manipulation disturb the healing process.

Serious, deep wounds with profuse bleeding do not often occur in skiing; if they do, the application of a tourniquet between heart and wound is indicated besides the regular wound dressing, consisting of gauze packed into wound and bandage. A hemostatic forceps, used to stop the pulsating, squirting bleeding from a severed artery, should be part of the first aid equipment of ski huts and winter sports hotels.

The great majority of injuries in skiing concern the bones and joints. They are mostly due to unnatural, forced movements between the parts of the body, beyond the normal limitations of mobility. The injury may be more or less severe, corresponding to the speed of the skier, the violence of his turning motion and other factors.

The knee is particularly often involved in sprains and dislocations in skiing; it seems poorly adapted to the torsions which most skiing turns require. The articular surfaces of the thigh bone or femur, two large, rounded balls of bone covered with cartilage, do not fit well to the flatter surfaces on the top of the shin bone, or tibia, on which they rest. This may often twist out of place.

A day of skiing on the sunny expanses of unbroken white above timber line is most likely to lead to snow blindness unless colored glasses are worn.

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PSYCHOLOGY OF CHILDHOOD*

By Edward F. Reaser, M. D.
Huntington, W. Va.

We are all aware that the anatomical development of the human nervous system recapitulates the various levels of the nervous systems that have been present during the process of evolution of the progenitors. Biologists say that the ontogeny repeats the phylogeny. Studies made at the various stages of embryological and fetal development show morphology of a constantly changing character, beginning with the single fertilized cell and progressing by growth and variation of form. By the end of the period of gestation the nervous system has attained one-fourth of its adult weight. The number of neurones is complete at birth. The process of maturing physically is one of growth in size and of increase in the complexity of terminal arborization. The medullary sheaths have not been formed at birth and their development continues through childhood and into adult life.

Although knowledge does not permit a correlation between the postnatal neural growth and mental growth we know that there is a comparative psychology as well as a comparative anatomy. During the first twelve weeks after birth the infant manifests only instinctive mental activity. Most of its time is spent in sleep. The stream of consciousness has not yet awakened in the young infant. The mind is, of course, active. To those mental levels the processes of which the individual is unaware we apply the name *unconscious*. We are forced to hypothecate two such levels. The racial or collective unconscious is that group of phenomena common to all persons which is innate and which represents the mental experiences of the progenitors through all preceding ages. This portion or division of the psyche is designated by the German term "das es" which is translated as "the id." In it are collected together those results of racial experience that have survival value. By Nature's economy these primitive ways of thinking and feeling are so preserved and transmitted as instinctive urges through the germ plasm. They are so nearly

*Read before the Medical Review Society, Huntington, on October 1, 1936.

identical with the earliest mental reactions of primitive man that they are known as *archetypes.* The collective unconscious of the race has been the source of legends and myths among the ancients and continues to account for the phantasies of childhood, the dream experiences of adults, and the archaic thinking seen so often in psychotic persons. In addition to inherited patterns of thought there are inherited patterns of action. It requires no conscious mental process to impel the infant to seek food. The urge to survive is the instinct of self-preservation which causes the infant to nurse without conscious mental activity.

Nearest to the level of consciousness lies the level of the personal unconscious which is only potentially present at birth. It grows with age and development of the individual and is the repository of the lost memories of personal experiences and repressed desires.

It is a mistake to conceive of the child mind as the same as that of the adult but upon a small scale. To regard a child as a little adult has been the most common error of students of child psychology. Studies have revealed that the child has a totally different kind of mind and that adult standards do not apply.

The human infant is completely dependent at birth. The long period of such dependency accounts for the opportunity for considerable variation in the effects of environmental factors. The physical surroundings of the infant affect to a considerable extent its responses. Keeping the infant in a darkened room, shutting out sounds, maintaining a uniform or a variable temperature, fondling and manipulation of its body, are some of the physical factors to be remembered as leading to variations. The period of dependence in man is longer in civilized man than it is in savages and it grows longer with the increasing complexities of civilization. However, individual variations occur and the human infant very quickly adapts itself to complex conditions.

The period of total dependence upon persons of his environment comprises the first year and a half of the child's life. During this time the acquirements of the child are almost entirely the results of innate faculties. The normal development of the child's accomplishments may be to some degree hastened or impeded by the environmental factors. Walking may be delayed by keeping the infant in his crib. Auditory and visual orientation is modified by the presence or absence of the physical stimuli of sound and light.

Sherman found the pupillary light reflex absent in infants of the age of two hours and present but very sluggish in infants under twenty hours while in those over twenty-eight hours old all showed a strong reaction. The reaction of the different infants to this simple stimulus was not uniform. This, however, represents the beginning of adaptation of the sense of sight. If the eyelashes of the new born infant are touched there will be a reflex response in the form of winking. When the child is two weeks old he is able to look at an object. The movement of a light is not followed until he is four weeks old. Although he fixes his eyes upon an object at two weeks he does not yet accommodate for vision. When he is about two months old he sees well enough to distinguish a large object and to observe the approach of a person. At four months he can distinguish between the appearance of persons known to him. He will then blink at moving objects but will pay no attention to a small object placed near him. At the age of six months he will reach directly for objects and by eight months he is capable of picking up small objects. His visual and muscular senses are becoming fairly well coordinated. He has begun to become oriented for space.

Auditory adaptation has been followed in similar studies. Loud noises will startle an infant of the age of a week. Sudden sharp sounds will produce blinking. At the age of a month the infant will attend to the mother's voice and music and singing will quiet him.

At four months he will turn his head in the direction of voices and at nine months he appears to distinguish some words. He has then begun to discriminate between sounds and can begin the process of acquisition of language.

Touch and temperature senses are present at birth. The nursing reflex is of utmost importance because it is the means of securing food. Any mild stimulus to the lips will elicit a muscular response. It is an interesting point to note the return of the nursing reflex in the extreme regression to the infantile level found in some cases of senile dementia. When the child is three months old he uses his fingers to register touch sensations. The sense of touch is the first sense employed by the infant to explore the environment. The temperature sense is intact and perhaps it is this sense that activates the new born infant to emit the first cry.

Reflexes, however, are not found well established. At first there is a tendency for the movements to include wide spread muscular groups or to follow the gross musculature pattern. Most reflexes pass through a process of development and many of the more important ones are not established at birth. "There is a learning element in all behavior patterns." The human has greater opportunities for more variable behavior than lower animals because there is a less rigid prenatal determination of reaction. The establishment of conditioned reflexes, which may so readily be accomplished is a good example of its learning element.

Pain sensation develops rather slowly. It is apparent that visceral pain precedes peripheral pain. Colic is a very early experience of the infant. It is well known that cutaneous stimuli in the young infant does not register as pain. The sense of pressure, however, is present even in the fetus and it is possible that fetal movements are responses to cutaneous pressure sensations. It is approximately a year before the infant has developed sufficient acumen of the sense of pain to enable him to profit by painful experience in the avoidance of future danger.

The new born infant is the most helpless of all animals. The young of lower animals are born in a much more advanced stage of development than the human whose muscles are weak and flabby. Studies have been made in an attempt to correlate physical growth and maturity. The height-weight-age tables devised by Baldwin and Wood and published by the American Child Health Association represent such an effort and are the most widely used set of norms. However, they can not be accepted as rigid. Anthropometric variations are too wide to permit of a perfect set of normal standards. The hereditary characters of tallness and shortness and the inheritance of a slender skeleton are factors to be considered. Recent studies make use of the bi-iliac diameter in relation to age and height.

Exercise is essential for the maturation and development of tone of the muscle tissue. Tonicity and kinesia improve with the age of the child. Stretching is the earliest movement employed by the infant in his preparation for locomotion. This begins at about the end of the first week. At approximately four months the child has acquired ability to hold up his head and to raise it from the bed. He can turn from his side to lie on his back and can soon roll over from his back to lie on his stomach. By nine months he can sit alone. By twelve months most healthy babies can stand if supported, creep, and make stepping movements with the feet when held so they touch a surface. Progress in the attainment of graceful movements depends upon the proper coordination of antagonistic muscle groups. The child learns to do this by experience in making broad and sweeping movements, connecting the sensations from the skin, tendons and joints while the antagonistic muscles are relaxed. Relaxation of muscles is essential to proper muscle training. Forced control of the movements of the child may lead to tension of muscles and

to strained activity. Freedom of movement is very important for the developing child.

An attempt at expression is first noted in the crying of the infant. Modulation of the crying voice is made to express hunger, sleepiness, discomfort, and displeasure. The first sounds made by the infant are more or less accidental and result from the rapid expulsion of air from the lungs causing the vocal cords to vibrate. Intensity of the cries varies. Babbling begins in the second or third month. Cries or vocal sounds produced accidentally are repeated over and over and appear to give pleasure to the child. These sounds serve as stimuli for the continuation of vocal exercise. Laughter will be heard about the fourth month. At about nine months monosyllables may be coupled together to form "mama" or "dada". At one year there is a vocabulary of about three words and at eighteen months about five words. These sounds are at first without meaning but becomes associated with persons and objects. Verbal symbolization is thus begun and the use of language as a means of communication is established.

Studies have been made in the effort to establish sets of norms by which the mental ability of the infant can be measured. Furfey and his associates, observing reflex responses found that there is lack of consistency in the way infants respond. They concluded that definite integration of the different forms of reflex behavior does not occur under the age of one month. The norms of infant behavior established by Gesell are the most standardized. He has made use of four main groups of behavior: motor, language, adaptive, and personal-social. He describes a number of actions of each main group. The following summary of his norms is quoted from Morgan:

Motor Norms: One month. Lifts head from time to time when held to the shoulder. Makes crawling movements when laid prone on flat surface. Lifts head intermittently, though unsteadily, when in this prone position. Turns head laterally when in prone position.

Two months. Holds head erect for a short time when held to the shoulder. Lifts head when suspended dorsally (the head being momentarily unsupported to test the compensatory postural adjustment). Lifts the chest a short distance above the table surface when in prone position. Makes vertical arm thrusts in random play when in the dorsal position.

Three months. Holds head erect and steady when held to shoulder. Rotates body from dorsal to side position. Pushes or elevates self by arms in prone position.

Four months. Holds head steady when carried or when swayed. Lifts head and shoulders in dorsal position as an effort toward sitting. Sits with resistant body posture when supported by pillows. Hands no longer predominantly clenched, but frequently open.

Five months. Rolls from back to stomach. Sits with slight prop. Picks up cube from table on contact. (Cube 2.5 cm. square, bright red.)

Six months. Sits momentarily without support, if placed in a favorable leaning position. Grasps with simultaneous flexion of fingers. Retains transient hold of two cubes, one in either hand.

Seven months. Tends to unilateral reaching and manipulation. Rotates wrist freely in manipulation. Secures pellet with raking or scooping palmar prehension. Picks cube deftly and directly from table.

Eight months. Sits momentarily without support. Raises self to sitting position. Picks up pellet with partial finger prehension.

Nine months. Sits alone. Opposes thumb in seizing cube. Makes a locomotive reaction in prone position.

Ten months. Pulls self up to standing position. Plucks pellet with precise pincer prehension.

Twelve months. Walks with help. Lowers self from standing to sitting position. Holds crayon adaptively to make stroke.

Fifteen months. Stands alone. Walks alone.

Eighteen months. Climbs stairs or chair. Throws ball into box. Scribbles spontaneously and vigorously.

Twenty-one months. Walks attended on the street. Walks backward. Differentiates between stroking and circular scribble.

Twenty-four months. Runs. Piles tower of six blocks with good coordination. Imitates vertical or horizontal strokes.

Thirty months. Goes up and down stairs alone. Piles seven or eight blocks with coordination. Tries to stand on one foot. Copies vertical or horizontal line.

Language Norms: One month. Gives definite heed to sound. Has differential cries for discomfort, pain, and hunger.

Two months. Attends readily to the speaking voice. Makes a facial response to a social approach, in which the examiner brings face near the child to attract attention. Makes several different vocalizations.

Three months. Smiles responsively to social approach. Gives vocal expression to feelings of pleasure.

Four months. Laughs aloud. Responds vocally when socially stimulated. Vocalizes in self-initiated sound play.

Five months. Turns head to voice or to hand bell. Gives vocal expression of eagerness. Vocalizes displeasure on withdrawal of coveted object.

Six months. Vocalizes several well-defined syllables. Expresses recognition of familiars. Actively vocalizes pleasure with crowing or cooing.

Seven months. Vocalizes satisfaction in attaining object.

Eight months. Gives vocal expression to recognition. Vocalizes in interjectional manner.

Nine months. Says "da-da" or equivalent. Listens with selective interest to familiar words.

Ten months. Incipient or rudimentary imitation of sounds. Makes conditioned adjustment to certain words.

Twelve months. Says two words. Adjusts to simple verbal commissions. Places cube in or over cup on command.

Fifteen months. Says four words. Uses expressive jargon.

Eighteen months. Says five or more words. Uses jargon conversationally. Points to nose, eyes, or hair.

Twenty-one months. Joins two words in speech. Names one picture. Repeats things said.

Twenty-four months. Names three of five objects. Points to five objects on card. Uses words in combination.

Thirty months. Points to seven pictures. Names five pictures.

Adaptive Behavior Norms: One month. Stares at a window or at massive objects. Gives visual heed to conspicuous moving objects. Gives transient visual regard to a red embroidery ring, 11 cm. in diameter, suspended from a string. Retains definite hold of the ring when it is placed in the hand.

Two months. Eyes follow moving person. Gives prolonged regard to dangling red ring.

Three months. Eyes follow moving pencil. Head turns freely on inspection. Varied tactile manipulation of ring. Varied inspection of environment (when in dorsal position).

Four months. Closes in with both hands on dangling ring, when in dorsal position. Manipulates table edge when held in lap. Regards one inch cube on table edge when held in lap. Regards one inch cube on table. Turns head in pursuing slowly vanishing object.

Five months. In dorsal position recovers rattle which has fallen within easy reach. Makes reaching approach to piece of paper favorably presented. Eyes cooperate in prehension and manipulation.

Six months. Reaches for object on sight. Picks up cube from table on visual cue. Regards pellet placed on table surface. (Pellet of white sugar, flat on one side, convex on other, diameter eight mm.)

Seven months. Reaches persistently for re-

mote cube. Lifts inverted cup. (White enameled cup with handle, 9.5 cm. in diameter at top, six cm. deep.) Manipulates ring with sustained inspection. Gives transient heed to fallen spoon. (Standard teaspoon.)

Eight months. Definitely looks for fallen spoon. Utilizes handle in lifting inverted cup. Shows manipulatory interest in details of bell.

Nine months. Brings inset block and form-board into exploiting relation. Uses string and pulls ring. Gives definite attention to scribbling demonstration.

Ten months. Accepts third cube or retains two cubes. Makes incipient, induced imitation of scribble. Explores form-board holes manually. Lifts cup by handle and secures concealed cube.

Twelve months. Imitates scribble or rotary spoon rattle. Adjusts round block to form-board or rod to hole. Uses string adaptively to pull ring. Secures cube wrapped in paper.

Fifteen months. Secures third cube. Builds tower of two blocks. Makes discriminative reversed adaptation of round block to form-board.

Eighteen months. Builds tower of three or more blocks. Makes an imitative stroke with crayon. Places cube in cup or plate. Accepts four or more cubes.

Twenty-one months. Places square in the form-board. Differentiates between tower and bridge. (Bridge is made by placing third block on edges of two buttress blocks.) Folds paper once on demonstration.

Twenty-four months. Places blocks in row to make train. Adapts to reversal of form-board. Creases paper definitely in imitation. Places cube in cup, plate, or box.

Thirty months. Attempts to build bridge from model. Adapts to form-board turned upside down with corrected initial error. Places a form (circle, square, rectangle, Maltese cross, or lozenge) on an incomplete outline. Marks twice for cross.

Personal-social Behavior Norms: One month. Makes tactually perceptible postural adjustments when taken up by the examiner. Shows selective regard for the face.

Two months. Head turns or fixates in response to speaking voice. Makes definite motor adjustment, in shoulder region, to being lifted. Kicks feet in bath or reacts with pushing leg movements.

Three months. Startles or betrays awareness when suddenly changed to a strange situation. Quieted by voice or music. Shows anticipatory excitement, or opens mouth expectantly in feeding. Fingers one hand with the other in tactile motor play.

Four months. Inspects own hand in play. Plays in simple manner with rattle. Splashes with hand in bath. Makes definite anticipatory adjustment of being lifted.

Five months. Plays actively with rattle with recurring visual regard. Exploits bath playfully.

Six months. Bangs spoon or pats table in play. Discriminates between strangers and familiars.

Seven months. Plays exploitively with paper. Plays exploitively with string. Reacts to mirror image by manipulation or approach.

Eight months. Shows definite responsiveness to frolic play. Pats or smiles at mirror image. Restores bottle to mouth. Shows interest in throwing and sound production play.

Nine months. Cooperates in rhythmic nursery games. Waves bye-bye or performs similar trick. Plays combinedly with cup and cube.

Ten months. Makes playful response to mirror image. Dangles ring by string in play.

Twelve months. Holds cup to drink from. Inhibits simple acts on command. Repeats performance laughed at.

Fifteen months. Uses spoon. Cooperates in dressing. Bowel and bladder control regularized.

Eighteen months. Uses spoon with good control. Fills cup with cubes in play. Turns pages of book. Looks at pictures.

Twenty-one months. Bowel control established. Asks for things at table (or for

toilet). Pulls persons in order to show something of interest. Tries to turn door knob.

Twenty-four months. Plays with mimicry. Tells experiences. Listens to words or phrases. Explains pictures.

Thirty months. Gives full name. Helps mother to put away things.

Kanner states, "at the end of approximately the first eighteen months of life, the normal child has acquired the necessary sensory, motor, linguistic, emotive, orientative, and adaptive equipment to make him ready for the task of domestic socialization."

The period of domestic socialization, as applied by Kanner, comprises the portion of the preschool period from eighteen months to five years. Its main functions are to broaden and strengthen the acquirements of the first period, to train the child in personal habits, and to establish inter-personal relationships. "From it the child emerges with a knowledge of family structure, with a primitive cosmic space and time orientation (earth, sky, sun, moon, stars; day, night, summer, winter), with a vocabulary suited for simple conversational needs, with a capacity for imaginative and competitive play, with some degree of numerical comprehension, with the realization of certain personal responsibilities, and with some appreciation of authority."

Piaget has published the results of his extensive studies of the form and functioning and of the content of child thought as learned by him through the clinical method of observation. It will be worthwhile to repeat some of his conclusions as quoted in Dr. White's review of his work. White states, "Language must be conceived as having a broader meaning than just the spoken or written form and includes gestures, facial expression, drawings, not to mention bodily and even visceral postures and movements in general. Of the social factors it is important to bear in mind that society, usually through the intermediation of the parents, attempts to foist its forms of expression upon the child but that the child mind, in spite of appearances to the contrary, has a structure and ways of functioning of its own."

Action is the important mode of expression in early childhood. Words are not representative of thoughts in the young child but are associated with action to supplement or reinforce it. Janet thinks the earliest words were expressions of passion or emotion such as threats, commands, anger, relief, wonder, etc. The pleasure principle is in full control in early childhood and the child's thoughts do not require verification. The need for verification comes when there develops a conflict between the egocentric state of mind of the child and similar states in others. Social needs are then felt and they require communication of thoughts and recognition of realities. This leads to the process of reasoning. The child first talks to himself and thinks egocentrically regardless of the presence of others. Egocentric thought can not be communicated. The earliest use of communication is seen in quarreling when there is a clash of actions leading to a primitive argument. The reasoning of childhood is unconscious and resembles action. He is unable to explain how he arrives at certain results.

There is a consciousness of resemblance before a consciousness of difference. When differences in persons and objects are recognized there occurs a disharmony in the reaction pattern which obtrudes itself into consciousness. When it becomes necessary for the child to adapt himself to others he finds it necessary to communicate his thoughts. This requires language which in turn calls for imagination and words.

The child does not conceive of the possibility of his judgment being in error because he lacks knowledge of the viewpoint of anyone else.. He utilizes only immediate perception and accepts it as absolute. He can deal with only one object at a time. It is later that he can combine and relate more than one object. He is unable to comprehend the relationship of the parts to the whole. This is illustrated by the drawing of a bicycle in which the child draws separately the

wheels, the gear, and the pedals. The parts are juxtaposed but not synthesized. This tendency to juxtapose parts instead of constructing them in proper relationship is further illustrated in the omission of such words as "because" and "therefore", and the use of "and" and "and then" in the child's conversation.

The phenomenon of syncretism characterizes the child mind. The earliest perception is of the general scheme as a whole. Analysis of the whole into its constituent parts as well as the synthesis of these parts in proper relationship to reconstruct the whole constitute two processes that are ambivalent opposites and that develop concurrently. In the mind of the child all things are connected and their existence together is taken for granted without the necessity of establishing relationships. The child's thought is egocentric and his reasoning is neither inductive nor deductive. He moves from one particular to another without the need for logical necessity. "The child's reasoning is thus concerned only with individual cases and does not attain logical necessity. The judgments of children before the age seven to eight do not imply each other, they simply follow one another, like successive perceptions, or actions which are psychologically determined without being logically necessitated by each other.—(White)." At about seven or eight the need for proof begins to appear as social factors exert influences on the process of thinking.

Egocentric thinking does not take any account of reality. It is a process of "day dreaming" in which contradictions are ignored and pleasure is the first consideration. The child encounters no difficulty until he faces the necessity of taking into account the views of others. At first, until age two to three, reality is that which is desired and the pleasure principle expressed by Freud changes and fashions the world to its liking. From the age three to seven to eight the world of play and the world of observation co-exist. The child's imagination enables him to construct a world to meet his wishes. He can make a horse of a broomstick and transform himself into a locomotive. The value of play world to the child is no less than that of the world of reality. At the age of seven to eight he begins to learn to associate cause and effect and to perceive relationships. At eleven to twelve the first manifestation of formal reasoning appears and there begins an awareness of thought processes under the influence of social factors.

Before the age seven to eight the child has no conception of chance happenings. To him everything is regulated and determined. He is unable to comprehend any action which involves a differentiation between physical and psychical. To him the world is endowed with both these qualities.

The child sometimes speaks of himself in the third person because he has failed to distinguish between himself and the external world and has imagined or assumed that his actions are part of his universe. I have seen this tendency in mental defectives and schizophrenics. At this level the child projects the name into the object itself, and internal reality into an external object.

In the early conception of thought the child identifies thought with voice and believes that he thinks with his mouth. This is at about the age of six years when the child regards the word as part of the thing. Thought is often regarded as a voice inside the head. At about eight the child begins to know that thinking is associated with the head but this is the result of teaching and he has no conception as to how this could happen. In the previous stage thoughts occur only when expressed vocally and words and things are identified. In the second stage when thinking occurs in the head, thoughts are materialized as objects, for example balls, tubes, etc. Until about eleven the child's conception of thinking is that it involves speaking.

For the first five to six years the child believes that the names of things are parts of the things. From seven to eight he regards the names as inventions of the persons or

power that made the things. He has been told of God as the creator of the world and he knows that men build houses, roads, etc. The third stage is from nine to ten when the child conceives of names as apart from the object and not concerned with creation. In the child's thoughts everything must have a name when it begins to exist. Some children endow inanimate objects with consciousness.

The child's conception of a dream varies with his stages of development. At first a dream is accepted as something that is external and comes from the environment. He then places the dream at the site dreamed of. If he dreams that he saw a dog in the back yard the dream itself is in the back yard. Some children believe the dream to be like a picture and to be beside them. Some think the person or object dreamed of causes the dream while others think it comes from God or Satan. They usually confuse the dream with the object dreamed of but may believe that they dream with the mouth. Later the child comes to regard the dream as internal, a picture seen by the eye internally. His conception of names, thoughts, and dreams follow a parallel course.

"That the child shows a keen interest in himself, a logical, and no doubt a moral, egocentricity, does not prove that he is conscious of his *self*, but suggests on the contrary, that he confuses his *self* with the universe, in other words that he is unconscious of his self." At first the child does not distinguish between *self*, thoughts, feelings, wishes, and the world surrounding him.

The child attributes consciousness to all things. There are four stages of his development. In the first stage everything that is active or useful is endowed with consciousness. In the second stage this applies only to things that move. In the third stage the child distinguishes between motion that is brought about by an outside force or power, from motion of the thing itself. In the fourth stage consciousness is limited to the animal world. The child believes that man has complete power over all things.

Paralleling the stages of development of the idea of consciousness are stages of changes in the concept of life. In the first stage life is attributed to everything that has motion, function or purpose. In the second stage everything that moves has life and in the third stage the child makes a distinction between movement imposed upon the object by an external agent. In the fourth stage life is attributed only to animals and plants. The child's concept carries the attributes of consciousness for everything that has life. At first the child thinks that all activity is conscious and that all objects have purpose. He believes that every object knows where it is, what it is, and what its purpose is. "Animism is in no sense the product of a structure built up as a result of the child's reflection but is a primitive principle, and it is only by a series of progressive differentiations that inert matter comes to be distinguished from that which is living."

In the preceding paragraphs free use has been made of Dr. White's excellent reviews of Jean Piaget's scholarly studies in child psychology and recorded in his books, "The Language and Thought of the Child and Judgment and Reasoning of the Child" and "The Child's Conception of the World."

USE OF COSMETICS

Cosmetics are employed to embellish one's appearance and should not be depended on to disguise poor health, Dr. Joseph Jordan Eller declares in his article "Cosmetic Care of the Skin" appearing in the February issue of *Hygeia*.

There is no general rule which can be followed regarding the use of cosmetics. The ideal method of selecting cosmetics would be to make a thorough study of each case and to choose the proper cosmetics for that particular individual's skin.

In general, persons with dry and sensitive skins should avoid soap and water. Emollient cleansing creams should be substituted. On the other hand a person with an oily, greasy type of skin should make frequent use of soap and water. A satisfactory soap is one that produces an abundant lather and contains a minimum of free alkali.

A STUDY OF SILICOSIS*

By GEORGE FORDHAM, PH.G., M.D., C.P.H., F.A.P.H.A.
Powellton, W. Va.

SILICOSIS is a disease due to breathing air containing silica (Si02) characterized anatomically by generalized fibrotic changes and the development of miliary nodulation in both lungs, and clinically by shortness of breath, decreased chest expansion, lessened capacity for work, absence of fever, increased susceptibility to tuberculosis, (some or all of which symptoms may be present), and by characteristic x-ray findings.

West Virginia, in the law recently passed, for the purposes of the Act defined silicosis as an insidious fibrotic disease of the lung or lungs, due to prolonged inhalation and accumulation sustained in the course of and resulting from employment, of minute particles of dust containing silicon dioxide (Si02) over such a period of time and in such amounts as result in the substitution of fibrous tissue for normal lung tissues, and the term silicosis shall also include silicosis accompanied by tuberculosis of the lungs evidenced by the presence of tubercle bacillus in the sputum.

Historical Data: Reference is made to the pathology resulting from the inhalation of dust since the time of Hippocrates 430 B. C. Visconti in 1870 is accredited with being the first to use the term "silicosis" to denote a pathological condition of the lungs resulting from the inhalation of silica. Rovida confirmed the reports of Pick and Visconti in 1871. In his report on a case of s icosis and chemical examination of the lungs for silica contents.

G. E. Lohniss in 1690 referring to miners, described the effects of their work on them as follows: "The dust and stone fall upon the lungs, the men have lung disease, breath with difficulty and at last take consumption. Lohniss was an inspector of mines at Brunswick.

In 1713, a British patent was granted for grinding flint by wet methods. Previously the flints were pounded dry, which proved very destructive to mankind, so much so, that any person ever so healthful and strong, working in that business, cannot possibly survive over two years, occasioned by the dust sucked into his body by the air he breaths.

Pliny, the Roman (23-79 A. D.) in his book Naturalis Historia, remarks upon the effect of dust on workers, and evidently provided the first respirator for its prevention (bladder over head).

Georgius Agricola, 1494-1555, a Saxon physician and chemist, settled at Joachemstal among the miners where his knowledge and observations, inspired him to write the most important work on mining and its seriousness. Agricola in his book, also describes the principles of mine ventilation a necessary condition to the health and safety to miners. This brought about a new and important epoch in mining. He mentions dust that has corrosive properties which eats away the lungs and plants consumption in the body. Around the mines of the Carpathian mountains are found women who have married seven husbands, all of whom have been carried off to a premature death by this terrible death. The death of the Carpathian miners is now practically ascribed to the rich radium containing ores, leading to lung cancer.

Occurrence of Silicosis: The census of 1930 showed that there were gainfully employed in the manufacturing and mechanical industries of this country, approximately 14 million persons. Accepting these figures, as relatively accurate, it appears that there are nearly 1,200,000 individuals potentially ex-

*Read at the Parkersburg Academy of Medicine, Parkersburg, W. Va., November 5, 1936.

posed to the silica hazard in the manufacturing, and mechanical industries. (Sayers, R. R., U. S. Public Health Report).

Vane and Lanza give the following figures: One hundred and fifteen thousand miners in metal and coal mines are exposed to silica dust. Three hundred and twenty-five thousand are employed as grinders, sand blasters and vitreous enamelers. Including also various other occupations with a known silica hazard, we arrived at a total of not less than 500,000 workers exposed to silica in this country, and this in our opinion is a very conservative estimate.

In a recent survey carried on, in a large manufacturing center, it was found that about nine per cent of the industrial workers were employed in occupations where the silica hazard required consideration. (Public Health Bulletin No. 216).

In the report of L. J. Irvin, Union of South Africa, for 1928, he has analyzed the figures relative to age as follows:

0.83 per cent had silicosis at 30 to 35 years of age.

2.61 per cent had silicosis at 34 to 37 years of age.

3.34 per cent had silicosis at 38 to 41 years of age.

3.77 per cent had silicosis at 42 to 45 years of age.

3.51 per cent had silicosis at over 46 years

In the Picher District: 10.3 per cent had silicosis at 20 to 29 years of age.

32.2 per cent had silicosis at 30 to 39 years of age.

37.8 per cent had silicosis at 40 to 49 years of age.

From the above figures it can be seen, that silicosis is really a very vital health problem, and that it can be solved. We can see that the results obtained in Union of South Africa during the past decade have been most gratifying. The number of cases of silicosis has been very materially reduced and the tuberculosis rate is showing a very pronounced downward trend.

Silicosis has been divided into three stages: First, second and third.

First Stage: The symptoms of uncomplicated first stage of silicosis are few and often indefinite. The man may apparently be quite well and his working capacity not appreciably impaired. Shortness of breath on exertion, unproductive cough, often with recurrent colds are the most usual symptoms. There is loss of ability to expand the chest more than formerly, and the elasticity of the chest may be slightly impaired.

The earliest specific indication of the presence of silicosis is the radiographic appearance, consisting of generalized arborization throughout both lung fields with more or less small discrete mottling.

Second Stage: A definite shortness of breath on exertion is usually found. Pains in the chest are a frequent complaint. A dry morning cough is often present, sometimes with vomiting. Recurrent colds are more frequent. Even then, the man's appearance may be healthy, but he is dyspneic on exertion. He cannot work as well as formerly, and his chest expansion is noticeably decreased, the movement being sluggish and diminished in elasticity.

The characteristic x-ray appearance is a generalized medium sized mottling throughout both lung fields. The shadows of the individual nodules are for the most part discrete and well defined on a background of fibrous arborization, but there may be here and there larger but limited opacities due to irregular pleural thickening, or to a localized aggregation of nodules.

Third Stage: In the third stage the shortness of breath is marked and distressing, even on slight exertion. The cough is more frequent, the expectoration is in most cases slight, but may be copious. The individuals capacity for work becomes seriously and permanently impaired. His expansion is greatly decreased, even with forced inspiration. He may loose flesh, his pulse rate may be increased and his heart may become dilated.

The radiographic appearance in the third stage is further accentuated. The mottling is more intense, and the nodules are larger and take on a conglomerate form, so that

large shadows are shown corresponding to areas of dense fibrosis. (Clinical Manifestations of Silicosis, R. R. Sayers).

Irvin states that the workers found in advanced cases of third stage silicosis are only among men of robust physique. He further states that few cases of advanced silicosis are without the infective element, although this may be latent and not apparent clinically. He noted that the general nutrition may be quite good and that many of the men are obese. With few exceptions there is some cyanosis and some obvious dyspnea. The expansion is decidedly impaired. The percussion note is flat, although there may be local areas of dullness due to the thickened pleura.

The diagnosis of silicosis should be made only by a correlation of all the facts, symptoms, signs, occupational history, laboratory findings and x-ray observations.

Over a long period of years, from personal experience with a large number of men employed in the various industries, I find that to make a correct diagnosis of silicosis it is necessary to have the industrial history which is very important. The history must cover the entire industrial history from the first to the last employment, and must be specific as to the industry and what his occupation was in each and every industry.

May I illustrate the importance of industrial history with the following cases that came under my observation:

Case No. 146: Age 45, white, married, five children; wife died of tuberculosis. Metal miner for two and one-half years but has been out of metal mines for 17 years. Coal miner 23 years. Diagnosis—Silicosis, second and third stage, complicated with tuberculosis. Died 1936. This man denied any history of exposure to rock dust, but after a great deal of questioning, he admitted that he had worked two and one-half years in a metal mine, about fifteen years prior to the x-ray.

Case No. 147: Another case along the same line: This man gave a mining history of 20 years. His chest was very suspicious. Complete examination revealed silicosis and tuberculosis. His industrial history revealed three years in a different industry as a rock driller. He died about three and one-half years after examination.

Prevention or Control Methods: First and foremost, control the dust at the point of origin by wet drilling. Dust trap, as an example the Kelly dust trap. Proper ventilation, and exhaust system. Masks may be used, but cannot be relied upon, as most of the masks are uncomfortable, and the workmen will not wear them all the time. Positive pressure masks are to be preferred.

As to treatment, there is no specific treatment.

Irvin has stated that it is not so much what the condition of the silicotic is today, as what it will become tomorrow. Irvin also emphasizes the tendency of the fibrosis to progress even though removed from exposure, and expresses his opinion that it is one of the most serious aspects of the whole silicosis problem. No remedy has been shown to be of any value in elimination of the pulmonary fibrosis, although certain improvements in symptoms may be noted after the victim is removed from exposure.

Bohme reported silicosis progressed after the removal from exposure in 20 per cent of the cases diagnosed as having silicosis in the first stage, in 40 per cent of the cases in the second stage and in practically all the cases in the third stage.

The course of silicosis among the workers no longer exposed to silica dust is adequately stressed in the report of Dr. Albert E. Russell and the references discussed furnish evidence that regardless of termination of exposure, silicosis may eventually progress to a more severe and even fatal condition. Whether the individuals develop silicosis, does not depend on sex or race, but nearly entirely upon the concentration of free silica particles under 10 microns in diameter, to which the employee may be exposed and the duration of such exposure.

A CASE OF FURIOUS RABIES WITH NECROPSY FINDINGS*

By FRANK J. HOLROYD, M. D.
Princeton, W. Va.

A CASE of furious rabies in which the patient lived for eleven hours after the onset of definite symptoms is on record at the U. S. Marine Hospital, Baltimore. Furious rabies, common to lower animals, rarely occur in the human species.

A study of the literature on the subject revealed only one case[1] in which a human with rabies had bitten another. In this case it was the author's opinion that the bite was accidental.

In the case being presented, a man with rabies expectorated upon one man, bit another, and attempted to bite several others.

Case: O. M., a white Scandinavian, male, aged 26, entered the hospital November 1, 1930. He had, enroute from ship to hospital, bitten a shipmate, Thompson, on right fore and ring fingers causing abrasions sufficient to draw blood. He complained of sore throat of a few days duration.

Family and past histories were not obtainable due to condition of patient and his lack of knowledge of English but a vague account that he had been bitten on the lip by a cat about two months before was given and the statement that he had not eaten for two days as he had felt a choking sensation whenever he attempted to swallow liquid or solid food. He said that the men on his ship had told him that he was crazy but he knew that he was not crazy and that he would be all right as soon as he could eat.

Physical Examination: 10 a. m. Patient acutely ill, well developed, well nourished white male. He talks irrationally but tries to cooperate and is not violent. He insisted on having a glass of water to show what happens when he tries to drink. Attempting to drink there is a marked spasm of the muscles of deglutition, the mouth is drawn open, the lower jaw twitches and there is marked dyspnea. He clutches his throat with his hands. The spasms last from one to two minutes and then the muscles relax. Talking to him of eating and drinking, shaking the bed, dropping objects on the floor have little effect, but a light flashed in his eyes brings on a similar spasm. Patient does not seem annoyed at tests.

Course in Hospital: At 10:30 a. m. patient maniacal, fighting attendants. Put to bed, he became quiet. On being shown a glass of water he had another spasm of the muscles of deglutition. At this time a tentative diagnosis of rabies was made. At noon he again became maniacal, throwing objects at attendants and trying to bite nurse. He vomited profusely. How unusual and confusing the symptoms were is indicated by the fact that at 12:30 p. m. the patient was seen by a consultant in internal medicine who was of the opinion that the patient was suffering from poison taken by mouth and suggested that the stomach be washed. This was done with difficulty, patient fighting and trying to expectorate on every one. Four people were required to hold him although his weight was but 125 pounds. After the stomach was emptied he became quiet and showed no reaction to light flashed in eyes or to the sight of a glass containing water. (Stomach contents showed undigested egg). At 3:00 p. m. after sleeping two hours the patient threw chairs and glasses at attendants, jumped from bed, crawled on hands and knees, hid under covers pulled from bed and attempted to bite attendant. About 4 p. m. he was seen by a consultant in neurology who thought the patient was suffering from hysteria or the

*Medical Service, U. S. Marine Hospital, Baltimore, Maryland. Published by permission of the Surgeon General, U. S. Public Health Service.

early stage of dementia præcox. A restraining sheet was applied. He was quiet but attempted to expectorate on and bite any one who approached. At 5:40 p. m. he began to bite his tongue. He showed no signs of weakness. At 5:50 p. m. he had a drenching sweat and sputum expectorated was bloody from the bitten tongue.

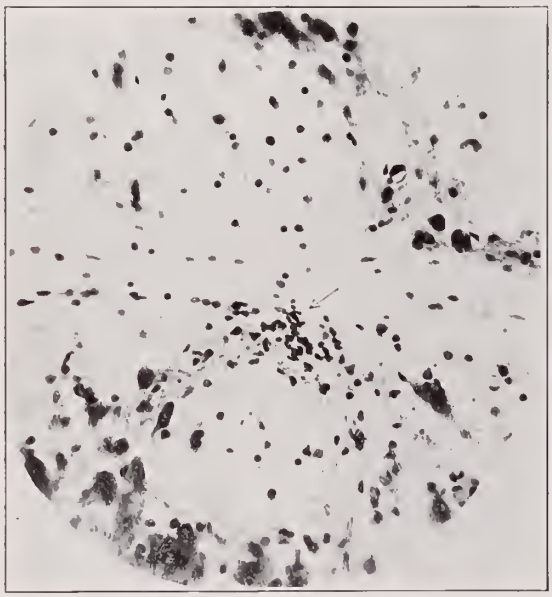

FIGURE 1: Section through brain stem, showing elongated rod cells simulating the so-called Babes' nodules.

At 5:55 p. m. the patient died.

Laboratory Reports: November 1, 1930: Urinalysis, essentially negative; red blood cells, 5,000,000; white blood cells, 9,800; hemoglobin, 90 per cent; Wassermann reaction, negative; examination of stomach contents, negative for evidence of poisoning.

Necropsy performed November 2, 1930 by the author: Patient well developed and nourished white male. A scar three mm. in diameter noted on the left side of the upper lip. No abnormalities noted in thoracic or abdominal organs. *Brain:* Grossly brain appears edematous. There is marked injection of the pia and arachnoid.

Histological Report by Dr. G. W. McCoy, Director of the U. S. Hygienic Laboratory, Washington, D. C.:

Microscopically: Stomach, pancreas, duodenum and spleen showed no pathology worthy of note.

Liver: Moderate vacuolation of medium size except in periportal zone. Capillaries inconspicuous, largely empty. Liver cells cloudy and granular. Occasional patch of periportal small round cell infiltration.

Kidney: Convoluted tubules swollen, cloudy, finely granular. Moderate autolysis in collecting tubules. Moderate increase in fibrous tissue in pyramid. Vessels and glomeruli appear normal.

Brain: 1. Dentate nucleus: Several vessels show compact adventitial infiltration with lymphocytes in one vessel also with polymorphonuclears and plasma cells.

2. L. Frontal cortex (base): Several of the arterioles present adventitial hemorrhages. In one area there is cell shrinkage and pericellular vacuolation of the pyramidal cells.

FIGURE 2: Section through medulla, showing the marked perivascular infiltration of small round cells.

3. L. Capsule interna: Again adventitial hemorrhages are seen about the small vessels, chiefly in the caudate nucleus. An occasional vein is packed with polynuclear leucocytes.

4. L. Frontal cortex: No vascular lesions, quite severe pyramidal cell shrinkage and pericellular vacuolation.

5. R. Pons (poster.) Many vessels with copious, dense, strictly adventitial cellular exudates composed of lymphocytes and a few plasma cells. Such lesions are seen in the dorsal portions, under the floor of the fourth ventricle.

6. Diencephalon (left): Two capillaries only show adventitial infiltration with lymphocytes.

7. The posterior section shows no focal lesions.

8. Occipital cortex: Pyramidal cell shrinkage and pericellular vacuolation as in other cortical sections. No vascular lesions.

9. Cerebellar cortex (rt. hemisphere): No lesions.

10. Post central gyrus: No vascular lesions. Pyramidal cell shrinkage and pericellular vacuolation are here especially marked.

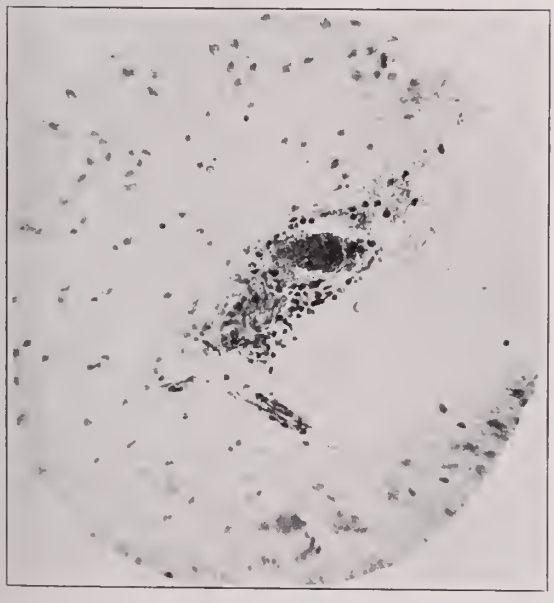

FIGURE 3: Section through substantia nigra showing marked vascular congestion and perivascular infiltration of small round cells.

11. Mesencephalon through anterior colliculus (rt. side): Strictly adventitial infiltration with lymphocytes is seen chiefly between the peduncle and the substantia nigra. The colliculus and the region of the eye muscle nuclei are free of lesions.

12. Vermis: No lesions.

13. Precentral gyrus: Less cell degeneration is seen here than in any of the other cortical areas examined, including the adjoining frontal gyrus in the same section. No vascular lesions are seen.

14. Pons (left, anterior portion): Below and lateral to the lateral angle of the anterior end of the fourth ventricle, beneath the

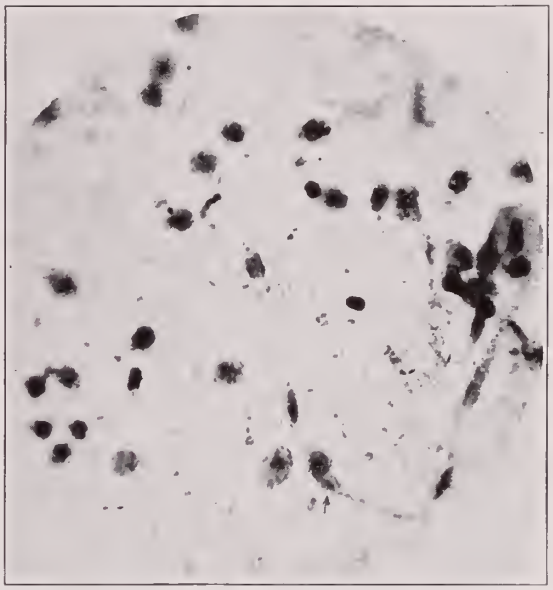

FIGURE 4: Smear from hippoiampus major of a rabbit innoculated with emulsion from patient's brain. Smear shows typical negri body.

brachium conjuctivum are a number of vessels showing dense outwardly sharply limited infiltration of the adventitia with lymphocytes. In one vessel only there is extra adventitial increase in glia fibrils and small and medium sized glia cells.

15. Medulla enlargement: Dense strictly adventitial infiltrations with lymphocytes are seen lateral to and above the olives, but not in or between them.

16. Medulla (below lower end of fourth ventricle, through lower end of olives): The perivascular infiltrations are especially numerous and marked near the central canal, about the hypoglossus nucleus. What appears to be the dorsal nucleus of the vagus shows considerable pericellular vacuolation, but no infiltrative lesions. Periadventitial small celled gliosis occurs about a few of the

vessels. Most of the infiltration is with small lymphocytes and strictly limited to the adventitial tissue of the vessels. A few small patches of small cell gliosis, diffusely bordered, are seen. The spinal trigeminus nucleus, the cuneatus and gracilis nuclei escape.

17. Medulla at decussation of pyramids: The dorsal and ventral accessorius nuclei show well preserved cells; the latter includes some small vessels with two or three layers only of lymphocytes in their adventitiæ. Similar, but more pronounced infiltrations occur in the substantia reticularis (pars lateralis) and in the lateral columns.

18. Cervical cord: Some of the anterior horn cells lie in pericellular vacuoles, others are normal. Polynuclear infiltration and neuronophagia are absent. Only a single small vessel with a few adventitial lymphocytes is seen in the section.

Generally: There are no cellular infiltrations in the pia, excepting about a pair of vessels at the bottom of the dorsal sulcus of the medulla behind the end of the fourth ventricle. The ependyma of the central canal of the medulla and cervical cord shows partial disorganization and proliferation outward.

Discussion of Microscopic Findings: The pallium, the basal ganglia, the cerebellar cortex, and the olives contain no inflammatory lesion. Perivascular mantles are broad and especially frequent in the medulla, pons and dentate nucleus. The collagen of the vessel wall is often disrupted and split by the cellular exudate. Nodes are rare, only in the medulla, and are diffuse bordered. Some changes do occur in the cervical cord. Well marked nerve cell degeneration, perivascular hemorrhages, hyperemia and edema are seen in the cortex and basal ganglia. This case corresponds well with Krinitsky's description and diagnostic table[2].

Emulsions from the hippocampus major were injected into the brain substance of three rabbits. One rabbit died the next day. On the fifteenth day the rabbits became agitated and on the eighteenth day both died. Numerous negri bodies were found in smears from the hippocompus major of each of the rabbits, thus making a definite diagnosis of rabies.

Discussion: This case is interesting from the following points:

1. The duration of the stage of excitement was only 11 hours as compared with the usual duration of two to four days.

2. There was no stage of paralysis, although necropsy did not reveal apoplexy or any other complication which might account for the sudden death.

3. While furious rabies in the human seems to be very rare this patient bit one attendant and tried to bite or otherwise harm everyone with whom he came in contact during the stage of excitement.

4. Thompson who was bitten on the hand sailed immediately after bringing patient to hospital. A radio message was sent to his ship and he was put ashore at Norfolk where he received antirabic treatment at the Marine Hospital. He developed no symptoms of rabies.

5. Photographs of various microscopic sections of the brain were made by Doctor C. B. Spencer of the hospital staff.

BIBLIOGRAPHY

1. Allen, R. E., an Horne, F. L.: *Report of a Case of Rabies in Which a Child Bit Her Father.* California State Journal of Medicine, 1913, XI, 408.

2. Krinitsky, S. I.: *Changes in the Central Nervous System in Rabies.* Virchow's Arch. of Path. Anat. 261: 802, 1926.

ENCOURAGE THE CHILD

Each act of the child should be met with encouragement, perhaps only with an interested expression, but never let it be met with indifference. Dr. Harold A. Rosenbaum is the author of the article "The Relation of Parent and Child" which appears in the February *Hygeia.*

Frequently the child's attempts to express himself varbally are hardly heeded. The stimulation to any self expression is certainly aided by a loving ear and a response, keeping in mind the point of view that one is dealing with a responsible, unfolding individual who deserves only the best consideration.

Feelings of security and confidence in his parents, fostered at an early age, are most valuable assets for future close guidance by the parents.

INTESTINAL OBSTRUCTION MORTALITY*

By ELDON B. TUCKER, M. D.
Morgantown, W. Va.

I OFTEN repeat the statement made by Dr. Frank Lahey, "There should be no surgical mortality." That should be the ideal toward which we should work. Intestinal obstruction therapy has a long, hard road to travel if it is ever to approach such a goal. Few if any surgical conditions require better scientific judgment than the case with acute intestinal obstruction.

This discussion will deal largely with the cases of intestinal obstruction to whom I gave anesthetics. In going over the County Hospital records which date from October 2, 1923, to October 30, 1935, there were 17,-274 patients admitted, among which number were found 79 cases of intestinal obstruction to whom I gave anesthestics and 49 cases to whom I did not administer anesthetics. I do not have any of the data on the cases to whom I did not administer anesthetics except as follows:

Number of cases treated by operative means	39
Number recovered	29
Number died	10
Number of cases treated by non-operative measures	10
Number recovered	10
Number died	0

No information was obtained in the above cases as to the degree of obstruction or the operations performed. This is just a statistical report made from the files of the County Hospital.

I will now add this list to my own list so as to give a general survey of these cases:

Number of cases of obstruction of the bowel to whom I did not give anesthetics	49
Number of cases to whom I gave anesthetics	79
Total number of cases	128

These were all County Hospital cases. Of this number, 42 patients died. This gives a mortality of 32.89 per cent.

This report of the cases to whom I gave anesthetics does not cover the following type of cases. It does not cover congenital malformations of the bowel except pyloric stenosis. It does not cover cases with adhesions unless obstruction was present. Obstruction must be classed as the major pathology. It does not cover generally peritonitis *per se*. It does not cover stricture of the esophagus. It does not cover carcinoma of the gastro-intestinal tract unless there was obstruction of the bowel. This report covers 89 cases, 79 of which were treated at the County Hospital and 10 of which were treated at other institutions. I will not go into the full details as to all of the various surgical procedure in each case, but the principal procedures will be classified. Among 7,100 anesthesias, there were 89 cases with obstruction, or 1.1 per cent.

Total number of cases	89
Number of cases that recovered	55
Number of cases that died	34
Mortality percentage	38.21%
Number of cases with no previous operation recorded	63
Number of cases of intestinal obstruction that were known to have had a previous operation	26

Number of cases with primary intestinal obstruction due to strangulated bowel such as strangulated or incarcerrated femoral, umbilical or inguinal hernias. This number also

*Read before the regular monthly meeting of the Monongalia County Hospital Staff, November 5, 1935.

included four cases of pyloric stenosis. Mechanical pathological obstruction which you could be reasonably sure of from the outside.

In such class there were ..... 53 cases
- Number recovered 43
- Number died 10

The following is a record of the type of major operation performed:

Enterostomy or colostomy only 9
- Number recovered 4
- Number died 5

Adhesions released or obstruction removed 28
- Number recovered 21
- Number died 7

Obstruction relieved and colostomy or enterostomy 12
- Number recovered 3
- Number died 9

Repair of hernias and releasing of adhesions and obstruction 33
- Number recovered 24
- Number died 9

Exploration of abdominal cavity 2
- Number recovered 1
- Number died 1

Reduction of intussusception 1
- Number recovered 1
- Number died 0

Drainage of peritoneal cavity 2
- Number recovered 2
- Number died 0

Anastomosis and released adhesions 1
- Number recovered 0
- Number died 1

Two other cases had an anastomosis along with resection of the gut and both died.

Two cases had a resection of the gut along with the other surgical procedures, and both died.

One case died with intestinal obstruction, complicating a gastroenterostomy. This was discovered at autopsy. This case will not be tabulated in the anesthesia report.

The types of anesthesia employed with the number that died and the number that recovered, are as follows:

Ether: (9)—
- Recovered 9
- Died 0

Gas and ether (nitrous oxide and ethylene): (18)—
- Recovered 12
- Died 6

Gas (N^2O plus C^2H^4): (15)—
- Recovered 9
- Died 6

Spinal Novocaine: (22)—
- Recovered 11
- Died 11

Spinocain: (16)—
- Recovered 9
- Died 7

Spinal and general: (3)—
- Recovered 2
- Died 1

Novocaine Local and Gas: (2)—
- Recovered 1
- Died 1

Local: (1)—
- Recovered 1
- Died 0

Avertin and ether: (1)—
- Recovered 1
- Died 0

Cyclopropane: (1)—
- Recovered 1
- Died 0

This totals 88 operations upon 86 patients. Two of these cases were operated upon twice. Another was operated upon twice but I had no record of the second operation.

I will now take up these cases from the anesthetic viewpoint. To begin with, ether anesthesia shows or appears to show the best record. There were nine cases with nine recoveries. However, six of these cases were on very young children, three for hypertrophic pyloric stenosis, one for intussusception, two for repair of inguinal hernias with gut or omentum caught. Two of the others were for repair of ventral hernias with strangulation, and the ninth was a case with ruptured appendix, peritonitis and obstruction.

The gas and ether group (N^2O plus C^2H^4) shows 12 recoveries and six deaths. One of these deaths was an old man 72 years of age with advanced myocardial degeneration. He died on the table after being revived once previous to the final exit. The second case was an old man with a possible ruptured gastric ulcer with obstruction of the bowel. He died five or six hours following the operation. The third case was a man with a Richter's hernia and he was greatly shocked and died one hour following the operation. The fourth case had a perforation of the ileum with a carcinoma of the descending colon. He died four days following the operation. The fifth case developed intestinal obstruction following an appendectomy and she had a secondary operation. The gut was opened and drained and she died four days following the first operation. The sixth death was a man 77 years of age with a fecolith forced into colon. Obstruction of ileum was reduced and jejunostomy done. He died two days later.

There were forty-one cases that received a spinal anesthesia and the mortality in this group was 47.5 per cent, or 19 deaths out of 41 cases. These figures appear to be quite high and maybe they are high. One case was an old man with intestinal obstruction of four days' standing. He died five hours after the operation. The second fatal case was a colored woman with intestinal obstruction of some standing, the operation being delayed even after admission to the hospital due to mistaken diagnosis. A third case was a female with a femoral incarcerated hernia, gut caught and mesenteric thrombosis. A fourth case was a woman with a gangrenous black gut due to mesenteric thrombosis. A fifth case was a man with an incarcerated inguinal hernia of three to four days standing. He died the day of operation. A sixth case was a colored man with peritonitis and adhesions producing obstruction following a gunshot wound of the abdomen. Died in the operating room. A seventh case was a Jew with a right incarcerated strangulated inguinal hernia. Age 69. Died three days following operation. An eighth case was a young female with intestinal obstruction following a generalized peritonitis. A ninth case was a female with carcinoma of lower colon producing obstruction. She died three days after a colostomy. A tenth case was an Italian woman with intestinal obstruction of three days standing due to an umbilical hernia, the operating being resection of six to eight inches of small gut and enterostomy.

These cases which I have given in detail show that at least ten of them were practically hopeless from the start and therefore the anesthetic employed and the operation should not be strongly criticized. Fifteen were desperately ill cases.

The gas cases total 16, including one with cyclopropane. There were six deaths, or a mortality of 37.5 per cent. One case was an exploratory laparotomy for intestinal obstruction, classed as paralytic ileus. Died on day of operation. The second case was a secondary operation for obstruction. Colostomy. Death due to hypertonic saline. The third case had a colostomy and releasing of adhesions. Died three hours following operation. The fourth case had an appendectomy, right salpingectomy and releasing of adhesions and drainage. Died within 24 hours. The fifth case was the case of an old man with a strangulated gut in a femoral hernia. The operation was a resection of 12 to 15 inches of small gut, lateral anastomosis. Repair of hernia and drainage. Died four days later from cardiac failure. The sixth case was a woman with fibroids and peritonitis and obstruction. Operation enterostomy. Died six days later.

In discussing the types of operations and the anesthetics used, I would like to say that each case is a law unto itself. Judgment must be employed in each case. No set or hard and fast rules can be set down. The experience of the operator in operations of this type should be of great value. A few commonsense measures should be kept in mind. If the case is a case with primary mechanical

obstruction, the obstruction should be relieved at once. If the case is seen in the initial stages of the obstruction, it should be operated upon at once. The patient with obstruction of three or four days standing is in a very serious condition. The distention of the bowels must be relieved. If there is a primary obstruction with a gangrenous gut some type of a resection must be performed. If the obstruction is due to some internal cause, such as adhesions, then a very simple enterostomy should be performed very rapidly using every precaution possible to relieve shock. No unnecessary handling of the gut should be done. Some of these cases may be relieved by Wangensteen drainage or frequent washing of the stomach. Too much surgery is a bad thing in the aged and poor risk cases.

A choice of anesthesia must be made for each individual case. The small child or infant must almost invariably be given ether. The adult who generally speaking is a good risk except for the obstruction will usually do well under spinal anesthesia. The old man with hypertension or a low blood pressure and signs of myocardial degeneration is a poor risk for any anesthesia. Gas with a small amount of ether, or gas with a high oxygen component, is as safe as any anesthesia unless the condition can be relieved under local anesthesia. Cyclopropane may prove to be a good anesthesia for these cases.

I would like to repeat the mortality rate again. For all of the known hospital cases, 32.89 per cent. For the cases with which I personally helped, 38.21 per cent. These figures should drive home to each of us the seriousness of intestinal obstruction.

In conclusion let me urge upon you the importance of an early accurate diagnosis, the importance of early consultation, and the importance of early hospitalization. These procedures should then be followed by rational conservative treatment keeping in mind that 30 to 40 per cent of these cases may die in spite of such treatment. In this series all cases which had been strangulated long enough to require anastomosis or a resection of the gut died. These delays in many cases were avoidable. Use less morphine and there will be less delay. Remember that a life is at stake and that we as physicians and surgeons are the judge, the jury, and possibly the executioner.

ULTRAVIOLET LIGHT

Ultraviolet light finds usefulness in industry, in photography, in scientific laboratories, food production and in numerous classifications of medical therapy. Cecil W. Byers explains these important light rays and enumerates their uses in "Ultraviolet —The Invisible Light Necessary to Health" in the February issue of *Hygeia*.

As an aid in the solution of criminal cases, objects are often photographed with ultraviolet light. This procedure brings out many things not visible in a picture made by ordinary light. Photos can now be taken in the absolute dark by the expedient of using ultraviolet light.

Tuberculosis of the skin is treated by exposure to ultraviolet. The rays do not penetrate far into human flesh, however, so their action is limited almost wholly to a surface or skin effect. Various other skin diseases are treated in this manner.

It is essential that people get their share of ultraviolet light. The one natural source is in ordinary sunlight. The best artificial sources are the carbon lamp, the mercury arc lamp and special electric lamps that have in them a mercury arc along with a tungsten filament.

In the textile industry the rays are used as the bleaching agent in producing the best quality of linen. In the petroleum industry they are involved in one stage of the manufacture of lubricating oils. The leather industry uses them in the final step in the manufacture of patent leather shoes and accessories.

Because of its powerful action in killing germs, ultraviolet finds many uses in industry. It is used for the sterilization of water and in the manufacture of various beverages.

In the food industry, exposure to ultraviolet increases the vitamin D content of such foods as milk, butter and cereals. Many pharmaceutic preparations are subjected to ultraviolet radiation in order to secure certain desired properties.

BILATERAL BONY ANKYLOSIS OF THE JAW*

By HOWARD G. WEILER, B. S., M. D.
Wheeling, W. Va.

THE problem of the ankylosed jaw is both unusual and spectacular. It is a condition which is extremely disabling and progressively disfiguring when occurring in children. Because of the apparent rarity of bilateral bony ankylosis of the jaw, one case of five years duration is herewith presented.

Historical Review: A comprehensive perusal of the literature from 1922 to the present date shows that there have appeared but eight articles on the subject in the United States during this time. This compares rather favorably with the grand total of forty-six articles reported in foreign journals during the same time. There seems to be some contention as to who performed the first operation for the correction of this condition. It appears that Humphrey in 1854, Varneuil in 1860 and Bottini in 1872 were among the first to publish reports of excision of the condyles for ankylosis. Before that time the usual methods of procedure were forcible stretching of a portion of the body or angle or even total excision of the jaw. Publication during the past fourteen years by Gilpatrick[1], Stern[2], Blair[3], Eby[4], Brown and Ham[5], Campbell[6], Risdon[7], and Loop[8] in this country have reported treatment of a total of eleven cases, mostly unilateral and with fibrous ankylosis.

Etiology: Ankylosis may be due to inflammation such as atrophic arthritis, tumors, fractures, muscle spasm or mechanical limitations such as scars resulting from burns. Some cases have been reported following smallpox and scarlet fever.

Anatomy: Considering just the area concerned for operation: the ascending ramus of the mandible has two processes, the condyloid and the coronoid, and between these two is the sigmoid notch. (Fig. 1) The condyloid process, normally covered with cartilage, articulates in the glenoid fossa of the temporal bone; the coronoid process is free from attachment of muscles. Other important structures are the facial nerve, auriculotemporal nerve, superficial temporal artery and vein, internally maxillary artery and parotid gland.

Diagnosis: Inability to open the jaws will vary in degree according to the cause. A limitation of motion of the temporomandibular joint caused by capsular shortening or external scar formation will permit some motion. True bony ankylosis results in complete lack of motion. Unilateral ankylosis will, in children, cause deformity of the jaw; thus in left-sided ankylosis the chin will gradually become deviated toward the left side due to deficient growth of the affected side. Recession of the entire jaw will also be a characteristic feature (see Fig. 2) giving a "chinless" profile or "bird-face" appearance.

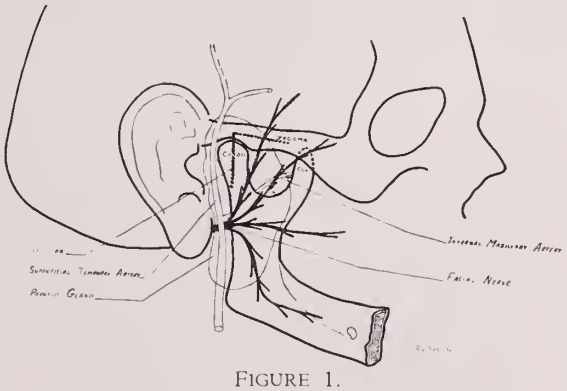

FIGURE 1.

Case History: J. C., age thirteen and one-half years, male, white. Admitted to Wheeling Hospital, February 27, 1936, complaining of "locked jaws." Past history is negative except frequent sore throats. In May, 1930, he received a fracture of the body of the

*From the Orthopedic Service, Wheeling Hospital, Wheeling, W. Va. Presented at the Staff Meeting, Wheeling Hospital, Wheeling, W. Va., November 17, 1936.

mandible in an automobile accident. Within six months his jaws gradually became stiff so that he was unable to open them. In 1933 an operation was performed on the left temporomandibular joint at Ann Arbor, Michigan, after which the jaws moved fairly

FIGURE 2: Before operation—demonstrating the "chinless" profile.

well. But after three or four months the jaws again stiffened and since then he was not able to open his mouth. He took his food in liquid form since then. Physical examination showed an underdeveloped, undernourished boy appearing much younger than the given age. General physical examination not remarkable except the jaws which were held tightly closed, there being no motion present. All musculature about the jaws was atrophied. The upper and lower teeth, which actually interlocked, were markedly deranged, a few missing and many carious. X-rays showed bony ankylosis of both temporomandibular joints. On February 29, 1936, operation of both jaws was performed under novocaine and morphine-scopolamin anesthesia, and both condyloid processes were excised. There was a slight amount of motion obtained, but due to moderate shock the operation was terminated. On March 14, 1936, general ether anesthesia was used; the recent operative incisions opened and the coronoid processes excised. This permitted complete opening of the jaws. An uneventful recovery was made, wide motion being obtained daily. After dental correction the boy

FIGURE 3: Before operation—Notice over-lapping of the teeth.

was discharged from the hospital, April 20, 1936.

Operation: Anesthesia consisted of morphine (gr. 1/6)—hyoscin (gr. 1/200) and local infiltration with novocaine two per cent in saline. An inverted L-shaped incision was made over the temporomandibular joint

with the short arm of the incision (two cm.) extending over the inferior border of the zygoma, the vertical incision (three cm.) being over the posterior border of the condyloid process. The incisions were carried down to bone and subpericsteal dissection made to expose the ankylosed joint. By confining the dissection completely subperiostally, the facial nerve was avoided. The joint was found completely solidified with bone. With an osteotome the condyloid process was excised,

FIGURE 4: 8 months after operation—The mouth can be forcibly opened to greater extent.

a section two cm. in length was removed, care being taken not to injure the internal maxillary artery which courses posterior to the process. It was demonstrated that the jaw could not yet be moved so a similar procedure was performed on the opposite side. The jaw could now be moved so that the teeth were separated a distance of one cm., enough to insert medium sized rubber tube. Because of signs of moderate shock the operation was terminated, suture of the soft tissues being made with silk. After fourteen days the horizontal portions of the old incisions were reopened, the boy being anesthetized with ether. The coronoid processes were exposed and a section of bone one cm. long removed with an osteotome. This procedure allowed the jaw to drop, permitting the insertion of three fingers between the teeth. Closure of the soft tissues was made with silk sutures and a bandage was placed about the jaw and skull to maintain the lower jaw as far forward as possible.

Progress: Two weeks after operation the problem of the deformed and carious teeth was placed in the hands of Dr. J. W. Braddock. A vulcanite plate was made to fit over the front teeth to aid in the use of a wooden screw to continue stretching of the muscles which quickly regained their tone and function. Six months after operation the infected tonsils were removed by Dr. Edward M. Phillips. The retentive bandage was removed at meal times and twice more daily to maintain complete excursion of the jaws. Motion was continued in a wide range to date and there has been no discomfort experienced by the patient.

Comment: There was a marked improvement in the general physical and mental condition. The boy was transformed from a depressed mental and undernourished physical state to one of good health and happiness. (Fig. 3).

Because the patient became moderately shocked the operation was terminated and two weeks later a secondary procedure completed. This illustrates the necessity of watching the patient closely and of not being afraid to retreat in the face of grave danger. Patients who have been undernourished for several years due to locking of the jaws are not good surgical risks and must be carefully guarded at the time of operation.

Wide excision of the condyle is necessary to secure permanent relief. At least one-half of the condyloid process should be excised.

In this case the osteomy of the condyloid processes was not sufficient since there was also ankylosis of the coronoid processes to the zygomæ. At the time of both operative procedures the left side was operated upon first and it was found that the jaw would not move until the right side was osteotomized, proving the bilateral block.

Summary: 1. Bilateral ankylosis of the jaw should be corrected as early as possible to prevent serious physical deformity and mental handicap.

2. Operation on this condition is a radical procedure and may be extremely shocking to the patient.

3. It may be necessary to osteotomize not only the condyloid process but also the coronoid process when it is ankylosed to the zygoma.

4. Continuous vigorous after care is paramount to prevent loss of motion of the jaws and recurrence of the ankylosis.

The writer is grateful to Dr. John W. Gilmore for referring this patient and for his assistance at the time of operation.

BIBLIOGRAPHY

1. Gilpatrick, R. H.: *Ankylosis of Jaw.* Boston M. and S. J., 186:374-377, March 23, 1922.
2. Stern, W. G.: *Report of Cured Case of Ankylosis of Jaw.* Ohio State Med. J., 19:248-249, April, 1923.
3. Blair, V. P.: *The Consideration of Contour as Well as Function in Operations for Organic Ankylosis of the Lower Jaw.* Surg. Gyn. and Ob. 46: 167-179, February, 1928.
4. Eby, J. D.: *A Study of the Structures of the Face in a Case of Ankylosis Before and After Treatment.* Int. J. Orthod., 17:848-853, September, 1931.
5. Brown, J. B. and Hamm, W. G.: *Diagnosis and Treatment of Lesions Preventing Normal Opening of the Mouth.* Ind. J. Orthod., 18:353-362, April, 1932.
6. Campbell, W. C.: *Mobilization of Ankylosed Jaw.* J. Am. Dent. A., 19:1222-1229, July, 1932.
7. Risdon, F.: *Ankylosis of Temporomaxillary Joint.* J. Am. Dent. Ass'n, 21:1933-1937, November, 1934.
8. Loop, F. A.: *Osteotomy and Arthroplasty for Bony Ankylosis of Left Temporomandibular Joint of 20 Years Duration.* Jr. Indiana M. A., 29:70-72, February, 1936.
9. Practice of Surgery, Vol. II, Chapter V, p. p. 314-318, W. F. Pyor Co., Inc., Hagerstown, Md., 1927.
10. Nelson Loose Leaf Living Surgery, Vol. III, Chapter IVa, p. p. 457-461, Thomas Nelson and Sons, New York, 1927.
11. Thoma, K. H.: *Oral Diagnosis and Treatment Planning,* Chapter XXV, p. p. 298-300, W. B. Saunders Co., Philadelphia, 1936.

FEVER OF UNKNOWN ORIGIN

By F. R. WHITTLESEY, M. D.
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THE patient, D. H., aged 19, was first taken sick on September 20, 1936, with general malaise. He observed at the same time a scattered eruption on his body. This disappeared the following day, and he felt normal. Three days later he again became ill, suffering agonizing headache, severe chilly sensations, and fever which rose to a peak of 104, and then rapidly subsided. With this febrile rise a scattered rash was again noted, chiefly on the extremities, slightly on the palms and soles, and also on the trunk. On the following day the patient was entirely normal, with the exception of the rash, which gradually faded and caused no discomfort. At three day intervals this cycle of events was repeated: fever, lasting about a day, reaching a peak of about 104 degrees, accompanied by severe headache, generalized aches, chilly sensations, and a sparse generalized eruption. In the intervals the patient felt entirely normal, and went about his work.

He first came under my observation in his fourth febrile paroxysm, on October 3, 1936. Muttering delirium was present, from which, however, the patient could easily be roused. The temperature was 104, and the pulse 120. Examination was negative, save for the slight rash. The spleen was not felt, there was no adenopathy, no localized infectious process, and no evidence of endocarditis. He was sent to the hospital, and studies commenced in an effort to identify the infection.

The patient's health during the summer of 1936 had been excellent, with the exception of an ordinary upper respiratory infection early in September, which had entirely cleared before the present illness began. There was no history of injury, insect bite, or animal contact. The patient had been

fishing and camping in the latter part of the summer, and so had had good opportunity for inoculation by insect vectors.

Past history was negative save for a simple mastoidectomy in 1927. According to the patient's father no breakdown of the mastoid cells was found at the operation. Recovery was uneventful, and there had been no trouble with the ear subsequently.

After admission to the hospital, examinations were repeatedly negative, save for the general findings described. The fever recurred at two and one-half to three and one-half day intervals, rising to 103.2 degrees, with a pulse of about 120. There was severe headache, generalized aches and chilly sensations, but never a true rigor. The eruption appeared with the fever, remained for a day or two, and then faded only to reappear with the next paroxysm. The spots were about five mm. in diameter, maculopapular, of a rosy red color, blanching on pressure, and often slightly tender. Sometimes large erythematous patches several cm. in diameter were seen. These were never raised above the surface. None of the spots ever became purpuric; they disappeared leaving no trace. None were seen in the mouth or throat. The distribution on the body was general but sparse. It was noted that the generalized aches involved chiefly the joints, in the form of a mild migratory arthritis. All muscles and joints were sore in the paroxysms but in the intervals one joint or another would persist with a definite though transient arthritis. Slight stiffness of the neck was noted at one time.

The febrile paroxysms soon became much milder, and his eighth, on October 13, 1936, reached only 100.2 degrees, with no symptoms save a mild arthritis of the right knee. Hospital care seemed no longer necessary, so the patient was allowed to return to his room, there to stay in bed and convalesce. Except for a slight evening rise on October 14, 1936, the temperature remained normal and all symptoms disappeared. The patient looked and felt well, and it was thought that the illness had run its course. Treatment had been symptomatic, except that quinine was given for several days, with no influence on the course of the fever.

Following are the laboratory findings of the first admission.

October 3, 1936: Urinalyses (2) negative. Blood. Hb. 103.5 per cent. WBC 19,500, with PMN 88 per cent. Smear negative for plasmodia.

October 7, 1936: Blood culture (taken in the febrile period) no growth. Spinal fluid, clear, colorless, under apparently normal pressure, with normal response to jugular compression. Cell count 18, of which 95 per cent were lymphocytes. No glubulin by Pandy and Nonne-Apelt. Sugar, a trace. No organisms of any kind.

October 8, 1936: On suggestion of Dr. R. S. Spray, Professor of Bacteriology, West Virginia University, School of Medicine, a blood sample was sent to the National Institute of Health, at Washington, D. C. The serum gave negative agglutinations for tularemia, brucellosis, and paratyphoid A and B. Widal was positive in dilution 1:20, (the patient had had typhoid vaccine twice) Weil-Felix reaction gave partial agglutination in dilution 1:80.

October 9, 1936: Blood culture (taken on the febrile rise) no growth.

October 12, 1936: Stool specimen examined at the State laboratories at Charleston gave negative result for organisms of the typhoid, paratyphoid, dysentery group.

October 16, 1936: Blood serum, National Institute of Health, all reactions negative, save the Weil-Felix, which showed complete agglutination in 1:20 dilution only. Repeated smears of blood, both thick and thin, taken at varying times, were negative for malarial plasmodia, or other abnormality.

A tentative diagnosis of Rocky Mountain spotted fever, eastern type, was made on the basis of clinical findings. There was no support for this diagnosis in the laboratory evidence, as the Weil-Felix reaction should be positive in 1:100 dilution at least, and is

usually by the fourteenth day of illness positive in much higher dilution.[3] It was felt that the reaction might later become more positive, and there was no other test that had given even faintly positive result, except the typhoid agglutination, which could be disregarded. Clinical evidence will be discussed later.

On the morning of October 18, 1936, the temperature again rose, but this time with signs of involvement of the central nervous system. Though fever rose only to 101.2 degrees, there was active delirium lasting about two hours, with apparently very severe headache. The patient was restrained with difficulty, respirations were quite abnormal with apnea and hyperpnea alternating, and cyanosis was marked. No convulsion occurred, there was no localizing symptom or sign, and after the attack ceased the patient was normal except for headache. He was taken back to the hospital.

Practically every day for ten days, at intervals ranging from 16 to 26 hours, the patient had a severe seizure coming on with hardly a minute's warning, and lasting between 45 minutes and two hours. At the onset of these attacks he felt a tight, choking sensation in the throat and upper chest, and then rapidly became violently delirious, requiring restraint, against which he struggled most vigorously. Moderate to marked cyanosis would appear, and an abnormal type of respiration, characterized by irregular hyperventilation with laryngeal stridor, and periods of apnea. At one moment the patient would go into opisthotonus, relaxing almost immediately. Again, for a few seconds only, a marked neck rigidity would be seen. Frequently tonic spasms of the extremities occurred lasting no more than a minute or two or a time. In the intervals relaxation was complete. There were never any localizing signs, no biting of the tongue, and no relaxation of the sphincters. The pulse rate during the attacks was quite rapid, around 130, but of good volume. Following the attacks there was a period of confusion, with severe headache. Later the patient would become entirely normal, though much fatigued from the tremendous exertion. Except with the initial seizure there was no fever, the temperature remained at normal or below from October 19, 1936, onward.

Different drugs were used in attempts to control the seizures, the time of onset of which could not be foretold. These attempts were unsuccessful. So marked was the cyanosis, at times, in the early attacks, that the use of a large dose of any depresant drug seemed hazardous. Oxygen therapy was considered, but not used, as the periods of severe cyanosis never lasted very long, and the giving of oxygen by any method would have been difficult to keep up, because of the violence of the convulsive movements, even under restraint. The attacks had no special precipitating factor that could be determined; some of them came on while the patient was asleep. The eruption was still present in the early days of the second hospitalization, but gradually disappeared, and thereafter only an occasional spot was seen. Examination of the nervous system showed at no time any localizing signs.

On October 19, 1936 the patient was seen by Dr. G. R. Maxwell in consultation. Dr. Maxwell's examination also gave entirely negative results, save for the scattered residue of the rash. He concurred in the diagnosis which, we agreed, was still the most probable. With the continuance of the severe seizures, further consultation was decided on, and on October 21, 1936 the patient was seen by Dr. R. R. Snowden of Pittsburgh. Examination again was completely negative. Dr. Snowden believed that the tentative diagnosis was probably the most reasonable one, and recommended the continuance of agglutination studies, of lumbar punctures, and later x-rays of the mastoids if the patient did not improve. Expectant treatment only was advised, there being no indications for specific therapy of any sort.

The seizures continued daily, and on October 28, 1936, it was decided, on sugges-

tion of Dr. E. B. Tucker, to try rectal anesthesia, in an effort to tide the patient over one or more of the seizures. Avertin fluid, five cc., was administered at 9 a. m. The anesthetic lasted well into the afternoon. In the evening a mild seizure occurred, requiring but little in the way of restraint. A second somewhat smaller dose of avertin was given, and the patient remained under the influence of this until well into the following morning. No further avertin was used. Mild seizures continued to occur for several days, and then disappeared, though attacks of headaches were frequent, and there were drenching sweats. Some nervous instability also was present. He was allowed up on November 6, 1936, and was discharged the same day, with no residual signs or symptoms. Reports from his parents recently state that he is practically back to normal weight and strength, and save for two or three transient rises in temperature during his first days at home, he has had no signs of illness.

Laboratory findings in the second admission were as follows:

October 19, 1936: Urinalysis negative. WBC 9700. Smear for plasmodia negative. Spinal fluid normal except for cell count 15, of which 85 per cent were lymphocytes. Spinal fluid Kahn negative. Spinal fluid culture negative.

October 26, 1936: Spinal fluid. Pressure 156 mm., rising to 180 on compression of either jugular. Cell count 9, of which 85 per cent were lymphocytes. Blood Kahn negative. Blood serum calcium 12.0 mg. per 100 cc., phosphorus 4.5 mg. per 100 cc.

October 28, 1936: Blood serum, National Institute of Health, showed partial agglutination Weil-Felix in dilution of 1:20. All other tests negative.

October 30, 1936: Stereo x-rays of mastoids negative.

October 31, 1936: Spinal fluid normal, cell count five.

November 9, 1936: Blood serum, National Institute of Health, showed no agglutination for brucellosis, tularemia, or Weil-Felix.

In considering the diagnosis of this case there are several points to be taken up. (1) It is obvious that the patient was suffering from an acute infectious disease. (2) The disease was characterized by a cyclic intermittent fever. (3) A well-defined rash occurred. (4) A recrudescence of the disease gave evidence of central nervous system involvement.

Intermittent fever is not seen in many acute infectious diseases. The outstanding one is malaria, which is ruled out on clinical and laboratory evidence, and also by the failure of quinine to cause improvement. Meningococcemia may be accompanied by intermittent fever, but the rash seen is of purpuric type, and the blood culture is positive. Also with invasion of the central nervous system the spinal fluid findings would have been typical. Other blood stream infections, such as streptococcus, may be ruled out on clinical and laboratory evidence. Relapsing fever, even if it were found in this part of the country, would have been recognized on examination of the blood smears.[6] Erythema nodosum was suggested. The eruption seen in this case bore no resemblance to that seen in erythema nodosum, and the temperature curve also renders that diagnosis unlikely. Rat bite fever exhibits an intermittent fever, and a rash. In this disease the site of the rat's bite becomes markedly inflamed and ulcerated, and the regional lymph nodes are enlarged and inflamed. No such surface lesion or adenopathy were noted in this case. In occasional cases no history of bite and no surface lesion or adenopathy occur. However the disease does not undergo spontaneous recovery, but continues for months if untreated.[1]

No doubt other infectious diseases may show intermittent fever, though this is not common. Available descriptions of these diseases do not include any clinical entity that this case resembles. It must be considered an atypical case, departing markedly from the "textbook" picture.

Tularemia and brucellosis do not present, either one, a constant clinical picture, but in each disease a highly specific agglutination reaction occurs, which is considered essential for diagnosis. Repeated tests of this patient's

serum showed at no time an even faintly positive reaction for either disease.

The other diseases to be considered are typhus and Rocky Mountain spotted fever, the former chiefly an urban, the latter chiefly a rural disease. Actually, without special tests using laboratory animals, it is not possible to state which of the two is present.[5] The patient under consideration probably acquired his infection at his home in a rural community a few days before the onset of symptoms. The incubation period of typhus ranges between six and fourteen days, that of Rocky Mountain spotted fever between two and twelve, most often three to seven.[9] No history of louse or tick bite could be obtained. The patient's home was certainly not louse infested. He may have unknowingly suffered a tick bite while camping in the latter part of the summer, in central West Virginia. Rocky Mountain spotted fever has been reported from southeastern West Virginia,[7] but it is not known whether cases have occurred in the central part of the state.

The temperature curve seen in this patient is not seen in either typhus or spotted fever, though a clinical report on the latter disease describes a case which did show daily intermittence of the fever in the later stages.[5] Usually the rash in these diseases becomes petechial. Non-petechial cases, generally mild ones, are described.[3,4,5] Possibly in this patient the rash would have become petechial if the temperature had been continuous. It is noted that with the daily remission of the fever that usually occurs in spotted fever, the lesions often fade, only to reappear when fever increases.[9]

The central nervous system involvement seen in this case suggests the occurrence in the nervous system of irritative lesions resembling those in the skin. It is probable, also, that the joints were the site of similar lesions. Report of an autopsied case of Rocky Mountain spotted fever records the presence in the spinal cord of "typhus-like" lesions.[8] These consist, in typhus, of an arteriolitis, and a periarteriolitis. The severe disturbance of respiration seen in this patient indicates irritation of the respiratory center in the medulla. The spastic seizures indicate upper motor neurone irritation, the site of which may have been in the spinal ganglia, or at some higher level. In spotted fever the central nervous disturbances may be severe.[2] "Delirium is common, and may be violent and protracted. Meningismus is frequent."[9] Cases are reported with paralysis,[3,5] and with acute mania.[5]

The laboratory evidence in this case is all negative. It is unfortunate that animal inoculations were not done. To be diagnostic the Weil-Felix reaction should be positive in at least 1:100 dilution. There is thus no support in the laboratory results for a diagnosis of spotted fever. However the Weil-Felix phenomenon is not found positive in all cases of Rocky Mountain spotted fever.

The effect of avertin anesthesia deserves comment. This certainly prevented one, if not two, of the spastic seizures. There is no knowing how severe they might have been without it. The mildness of subsequent attacks showed that the disease was receding.

Summary: An unusual case of fever of undetermined cause is described. The unidentified disease appeared to be a self-limited acute infection, characterized by intermittent fever, chilly sensations, general malaise, and joint pains, with a maculopapular erythematous rash accompanying the febrile rises. After apparent recovery a recrudescence occurred, with invasion of the central nervous system. The possibility of the disease being an atypical example of the eastern type of Rocky Mountain spotted fever is discussed.

REFERENCES

1. Cecil: Textbook of Medicine. Third edition.
2. Cumming, J. G.: Southern Med. Journ. 27:783, September, 1934.
3. Maillard, E. R. and Hazen, E. L.: Am. J. P. H. 25:1015, September, 1935.
4. Milam, D. F.: Southern Med. Journ. 27:788, September, 1934.
5. Mulholland, H. B.: Virginia Med. Monthly, 62: 71, May, 1935.
6. National Institute of Health: Personal letter.
7. Preston, D. G.: W. Va. Med. Journ. 30:119, March, 1934.
8. Proc. Staff. Meet. Mayo Clin. 10:657, October 16, 1935.
9. Rumreich, A. S.: J.A.M.A. 100:331, February 4, 1935.

THE IMPORTANCE OF PERIODIC PHYSICAL EXAMINATIONS*

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THERE is an old adage that an ounce of prevention is worth a pound of cure. The medical profession as a whole has tried to fulfill this adage; not only in precept but in fact, even to the extent that in every period of history there have been men who were willing to sacrifice themselves for the sake of suffering humanity in making a thorough study of the cause of certain diseases and thereby aiding in their prevention in order to prolong or preserve human life. All nations have produced their martyrs and heroes in medicine: Doctors Carroll and Lazear of the United States; John Hunter of England; Paul Ehrlich of Germany; Vesalius of Spain; Semelweiss of Hungary; Laennac of France; Noguchi of Japan and Carbone of Italy. These men all devoted their lives to the cause for prevention of certain diseases. Throughout the entire world there is a constant effort on the part of the medical profession through extensive research and practical application to find ways and means of easing human suffering, but never with any idea of what we shall gain from it in the way of any material benefits because if that were the case why should these men sacrifice themselves? What is more, all of these martyrs and heroes died poor men.

What then is the purpose of all this knowledge? We have it on our hands but we certainly cannot benefit by keeping it to ourselves. We must therefore place it at the disposal of those individuals for whom it was primarily intended. We have several means of distributing this valuable information, viz:

1. Through the medium of the family physician and his professional association.
2. Through public health service.
3. In the form of lectures before various groups, parent teachers, etc.
4. Through periodic physical examinations.

The periodic physical examination is a dream of long ago of the American Medical Association with the idea of detecting diseases in their beginnings in order that the patient's habits of living might be so modified under regulated medical supervision that his health will be conserved and his life prolonged for many years of usefulness and enjoyment, or in other words, for the protection of his own personal welfare and not because of any medical aggrandizement. Strange to say despite the fact that we are interested primarily in the personal health and welfare of the community, the general practitioner or family doctor has made very little progress in regard to periodic physical examinations. The public seems to be wary of our philantrophic motives, but on the other hand, is gullible enough to swallow any kind of medicine that proves to be a good sponsor on the radio. There are any number of answers to this strange paradox, but it all sums up to this that the public must see the results with its benefits accruing to them, or in the common American parlance of the day, "I'm from Missouri and you have to show me."

During the epochal reign of Koch and Pasteur in their respective fields in medicine, our problems centered themselves around epidemic and contagious diseases, and through the relentless efforts of these men and their disciples we have been successful in the reduction of these diseases to a minimum by the use of vaccines and sera and by making the public conscious of their responsibility and insisting upon each community caring for its own problems of sanitation and public health.

*Read before the Clinic of Physicians and Surgeons of the Western General Division of the Chesapeake and Ohio Hospital Association, Huntington, W. Va., April 16, 1936.

The problem of today, however, in view of the research work carried on by the United States Public Health Service in reviewing the statistics of morbidity and mortality concerns itself with the so-called degenerative diseases, chronic disorders and diseases of the nervous system, and is one which cannot be solved entirely by sanitation, vaccines or sera, but by the discovery and treatment of these conditions in their early stages through periodic examinations. The public has seen the results in the matter of prevention of childhood and epidemic diseases and immediately institute measures for public safety. For example, during the recent flood in the communities where there was any danger of contamination of the water supply thousands submitted themselves voluntarily for typhoid vaccination. It was called to our attention at our last Cabell County Medical Society meeting that about 1300 indigent people in the city of Huntington were asking for this type of vaccination.

In order to place the beneficial results of a periodic physical examination before the public it would require a vast amount of detailed study by each individual family physician to correlate definite facts and statistics, and this is well nigh impossible because the average general practitioner must use most of his time in easing the pains and aches of mankind with his healing touch and has little time left for figures except the anatomical type. Fortunately for the public, somebody has seen the benefits derived from periodic physical examinations. The insurance companies were the first to take advantage of the valuable information obtained in this way and now industry is beginning to see the light. The Chesapeake and Ohio Railway Company, we might say, is a pioneer in this field, and from the physical standpoint of the men who handle their engines we are justly proud to say that we have been instrumental in one respect in helping to fulfill the slogan: "Sleep Like a Kitten and Arrive Fresh as a Daisy."

These examinations were started about May 1, 1934. We have just about completed the second annual examination and thought it might be of interest to show the importance of annual physical examinations by a few actual figures. (See Figure 1.) It is not our purpose to show the unusual cases that have been discovered in these examinations, although there have been many of them, but to present the ordinary run of cases which do not require any special appartus or equipment, but only the use of the five senses with which we are all equipped and the ordinary armamentarium of every physician's office.

The manner of conducting these examinations is as follows: We have about 30 physicians over our entire system who are qualified to make the preliminary examinations. The report of such examination is then sent to our office in Huntington where it is reviewed and the matter of qualification is passed on. If the examination discloses any minor defects the man is sent a letter apprising him of these defects and he is advised to consult either the hospital association staff or his own family doctor if he so prefers. Last year we sent out 969 such letters, this year 724. In case the defects are of major importance and there is some question of permitting the employee to continue in service, the man is called to Huntington for a little more thorough observation. These cases are then referred to the supervising surgeon, Doctor J. F. Dinnen who passes on the matter of qualification or disqualification.

As a matter of simplicity it is my intention to follow the form of the blank that we use in order to bring out our facts more clearly. Our first concern is with vision. In 1934 out of 2130 men examined there were only 988 with normal vision, and 649 whose vision was corrected with proper glasses. There were 439 who needed glasses and 57 whose vision was questionable as to the need of glasses. In 1935, a year after the examinations were instituted there were 968 men with normal vision and 838 whose vision was corrected with glasses and the number of men needing glasses was reduced from 439 to 193, or a reduction of 246. In other words, we can safe-

ly say that the vision of 246 men has been improved.

Our next step in the examination is to take a record of the general history. This includes family history of tuberculosis, cancer or hernia; personal history including all diseases and then a history of any injuries or accidents and finally a history with reference to special conditions; namely, deformities, venereal diseases, hernia, vaccinations, use of drinks or drugs, rheumatism, epilepsy and any surgical operations. To prevent substitution of an employee, the man is required to write his signature before the doctor who is to make the examination, and this is compared with the signature on the opposite side which was written in the presence of his supervisory officer.

Age, weight and height are then obtained. The ages of this particular group, which comprises only the engineers and firemen, range from 25 to 76 years of age so that our figures certainly give us a wide enough scope to carry out this study. Furthermore, these men may be classed as the normal average individual because they are carrying on their usual occupation and are not coming to us with any complaints of illness. In 1934 there were 277 men overweight. After 1935 we still had 240 men overweight or a reduction of only 37 men which proves as I see it that railroaders have good appetites and it is hard to curb them.

In 1934 there were 317 men who had defective teeth and in 1935 this figure was reduced to 189 or a reduction of 128. On practically all of these cases we have a letter from the dentist stating that the teeth have been treated. These figures do not include small cavities, but only very evident defects such as pyorrhea or dead teeth which might be classed as foci of infection. Under this class we place infected tonsils. In 1934 there were 83 cases of infected tonsils and this figure was reduced to 33 in 1935.

According to most authorities there is very little that can be done for patients with abnormal blood pressure, yet, the results of our examination show 437 men in 1934 with abnormal blood pressure and in 1935 this was reduced to 262, and of this 262 who still showed an abnormal pressure, 75 have shown a very definite improvement. In view of the fact that the time alloted to me for this paper does not permit me to discuss this subject in detail, I can only say this, that I have made up a comparison of the ages and the percentage of abnormal blood pressure and the percentage takes a sharp rise after 55 years of age. (See Figure 2.) It is also interesting to note that the reduction is just as good in those past 55 years of age. For an example of the employees 62 years of age, there were 48 per cent who had an abnormal blood pressure in 1934 and only 12 per cent in 1935. The particular point to be noted here is that very few of these cases had any symptoms such as headache, dizziness, etc., sufficiently marked to alarm the patient. Yet we know that the discovery of this condition early is of importance because persistent hypertension tends to impair the structure of the arterial walls thus leading to the development of premature sclerotic processes. These significant observations certainly show us the necessity of early treatment in cases of hypertension, that is, before the individual shows any typical symptoms.

Considering the ages of these men and their strenuous activity it is surprising that out of 2130 we only find 99 in 1934 with abnormal heart action, and in 1935 this figure was reduced to 81. This includes any irregularities, murmurs, etc. All of these cases were called into the Huntington office for a recheck and then referred to the hospitals to determine if possible the extent of heart damage and where questionable these men were removed from service. In the average examination made in a doctor's office it is often considered a waste of time to carry out a urinalysis. Yet our figures show that this is a very important phase of any examination, and in my opinion no routine examination of any patient is complete without a urinalysis. This is borne out by the fact that in 1934

we found 139 cases with traces of albumin in the urine and in 1935 this was reduced to 69 cases. There were 33 cases in 1934 who had traces of sugar, and in 1935 there were 40 such cases found. On all of the cases with positive glycosuria a blood sugar determination with the Vim-Sheftel apparatus was done in our office to rule out diabetes mellitus and if further study was necessitated they were referred to the hospital for a glucose tolerance test. It is also surprising that despite the fact that a routine prostatic examination is not made in the preliminary study, the urinalysis disclosed sufficient abnormality that the employee was so informed by letter and a more thorough genitourinary check-up disclosed in several instances a pathological prostate.

All employees must be stripped for these examinations. In order to remove any objectionable feature in this regard, we insist on the strictest privacy being observed by the doctor making the examination. One of the reasons we insist on the employee being stripped for examination is because it immediately reveals any deformities or defects which the employee often wishes to hide, and particularly does this concern the question of hernias. In 1934 we detected 79 hernias and in 1935 this figure was still 74. Probably one of the reasons why there is such a small reduction in this respect is because most of these hernias were found in our men past 55 years of age, and in the majority of cases, the doctor has returned a letter stating that it would be inadvisable to operate, or that the man is wearing a good supporting truss.

With regard to syphilis: There were 25 men whom we had rechecked in our office and on whom a positive Wassermann was returned. I am not sure of the latest figure on the percentage of syphilis among the general population, but it strikes me that the percentage in the group of railroad men is not any greater than we find among the general public. There are several in this audience who should be able to give this answer. We do not make a Wassermann test routinely in our preliminary examination, therefore, it would not be correct to make any dogmatic statement regarding percentages without fear of contradiction. On the other hand in general practice we do not take routine Wassermann's so our figures of comparison are at least fair. We can, however, state without fear of being challenged that these positive cases showed sufficient evidence of latent syphilis to be diagnosed by the preliminary routine physical examination and the most interesting feature in this regard is that in most of the cases this was the first knowledge that the employee had of his condition.

In the matter of disqualifications—49 men were removed from service. The greater percentage of these were men who came within our pension requirements, and were, therefore, our oldest employees.

As was stated before in making this summary our intention was not to present the unusual but to place before you some very pertinent facts found by routine periodic physical examination embracing only those cases which present themselves in your every day office practice, or, in other words, the average individual. This average individual of today is more health conscious than any of his forebearers, and is not content only to live, but also would like to be robust, energetic and healthy, and to know that he possesses a clear mind so that he can readily compete with his fellowmen in his economic struggle, and it is our duty as doctors to show him how he can do this, and when we do, we will realize that this will prove to be one of the most powerful and effective means for improving and maintaining individual health. This is the ideal which we are aiming to accomplish, not only with the idea in mind of eradicating the very evident sources of focal infection, but with the thought of detecting any defects which, if not remedied today, might have some very harmful effect in the near future.

In conclusion it would hardly be right for me to allow this opportunity to pass without thanking all of the doctors in our organization for their excellent coöperation in the ful-

fillment of our program. And as my final swan song I would like to voice a special comment of praise to the general practitioners. Sometimes it so happens that following a recheck examination in my office, I am given the credit for making a diagnosis of some unusual condition, whereas the credit rightfully belongs to the doctor who made the preliminary examination and it so happens that the majority of the doctors qualified to make these examinations for us are general practitioners and not specialists in any particular feld.

So in the eloquent words of Maimonides may I say, "If physicians more learned than I wish to counsel me, inspire me with confidence in and obedience toward the recognition of them, for the study of the science is great. It is not given to one alone to see all that others see."

FIGURE ONE

Periodic Physical Examination of Enginemen

List of Defects

	1934	1935
Trace of albumin in urine	139	69
Blood pressure, high or low	437	262
(75 of the 262 Show Improvement)		
Defective hearing	21	19
Defective heart	99	81
Hemorrhoids	13	18
Hernias	79	74
Sugar in urine	33	40
Defective teeth	317	189
Defective tonsils	83	33
Overweight	277	240
Miscellaneous defects	85	63

Number of men examined during 1934 ... 2130

	1934	1935
Men with normal vision	988	968
Vision corrected with glasses	649	838
May need glasses	57	
Men that need glasses	439	193
	2130	

Number of men not reexamined during 1935	82
Men disqualified during 1934, 1935	49
	2130

Total number of examinations received in this office to date ... 2,478

FIGURE TWO

Ages of Men with High Blood Pressure

Age	No.	1934	No.	1935
29	1	8 percent.	1	16 percent
30			1	8 percent
31	3	21 percent.		
32			1	7 percent
33	5	20 percent.	3	15 percent
34	2	6 percent.	2	8 percent
35	5	18 percent.	5	15 percent
36	4	10 percent.	1	2 percent
37	6	12 percent.	5	11 percent
38	6	11 percent.	3	5 percent
39	10	13 percent.	4	7 percent
40	8	11 percent.	7	9 percent
41	6	7 percent.	5	6 percent
42	9	12 percent.	7	9 percent
43	7	9 percent.	6	8 percent
44	9	12 percent.	6	8 percent
45	12	17 percent.	8	10 percent
46	6	7 percent.	7	9 percent
47	13	16 percent.	7	9 percent
48	16	18 percent.	13	16 percent
49	19	22 percent.	15	18 percent
50	20	25 percent.	10	13 percent
51	18	24 percent.	12	16 percent
52	19	26 percent.	9	11 percent
53	13	21 percent.	13	18 percent
54	18	27 percent.	10	14 percent
55	20	30 percent.	14	19 percent
56	24	41 percent.	12	18 percent
57	12	26 percent.	11	20 percent
58	19	38 percent.	11	21 percent
59	22	43 percent.	7	14 percent
60	10	28 percent.	9	18 percent
61	11	32 percent.	4	12 percent
62	17	48 percent.	5	15 percent
63	9	45 percent.	4	12 percent
64	10	30 percent.	5	25 percent
65	9	36 percent.	5	15 percent
66	6	27 percent.	3	13 percent
67	5	22 percent.	3	13 percent
68	2	13 percent.	4	20 percent
69	5	33 percent.	3	20 percent
70	2	50 percent.	2	14 percent
71	2	40 percent.	2	50 percent
72	5	55 percent.		
73	1	25 percent.	2	22 percent
74			1	25 percent
76	1	100 percent.		

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

More than a million school children were tested with tuberculin last year. Most of the positive reactors were urged to consult their family physician for an interpretation of the test. What is the significance of a positive tuberculin reaction and what shall the doctor do about it? Lewis J. Moorman gives a specific and balanced answer in an article entitled "The Duty of the Family Physician in the Presence of a Positive Tuberculin Test."

The Significance of a Positive Tuberculin Reaction: A positive tuberculin test, particularly in the period of childhood or adolescence, places before the family physician the difficult task of carefully following a few of the knotty threads which help to make up the complicated fabric of human life.

He must realize that a positive reaction means that the tubercle bacillus has entered the human organism and has produced a pathological condition known as tubercle. In reality, a positive test warrants a diagnosis of tuberculosis. It is doubtful if we are justified in continuing to teach that there is a difference between disease which does not produce obvious symptoms and which never manifests demonstrable pathological changes during life, and the same disease which gives rise to the symptoms of toxemia with the demonstrable signs of gross pathology.

Possibilities Following Infection: Infection with the tubercle bacillus carries a wide range of possibilities. The disease may never cause obvious symptoms or demonstrable pathology. It may, particularly in infancy, lead to the development of one of the acute forms of tuberculosis which usually, in a relatively short time, prove fatal. Generalized miliary tuberculosis, tuberculous meningitis and the acute pneumonic types of pulmonary tuberculosis are among the common forms. If the child with a positive tuberculin test lives to be three or four years of age without developing manifest progressive disease, even though the x-ray may show what we call the primary complex (a calcified or Ghon tubercle in the parenchyma of the lung with secondary involvement of tracheobronchial lymph nodes), we may reasonably anticipate that he will carry on through childhood without clinical manifestations of disease.

When he arrives at the age of puberty there seems to be an inexplicable susceptibility to active progressive disease either through endogenous or exogenous reinfection. Then follows the train of variable possibilities always accompanying manifest tuberculosis.

Time will not permit a detailed discussion of these possibilities. Suffice it to say that the individual with a positive tuberculin test faces all the possibilities inherent in the wide range of hematogenous clinicopathological manifestations from the relatively inert primary complex through mild, moderately severe, to overwhelming generalized tuberculosis; and from low-grade fibrotic bronchogenic lung lesions through progressive stages of caseo-ulcerative forms, to widespread bilateral multilobar involvement which so often precedes death.

Physician's Responsibility: What has been said emphasizes the grave responsibilities resting upon the family physician when he stands in the presence of a child exhibiting a positive tuberculin test. Obviously he must throw about such an individual every available safeguard.

A positive tuberculin test has other implications and places upon the family physician other obligations. Having discharged his duty with reference to the individual manifesting the evidence of infection, he must consider the probable source of infection. Infection with the tubercle bacillus means contact with the tubercle bacillus. This usually means intimate contact with some one who has open tuberculosis. Naturally some one in the home must be considered the most probable source of infection. A negative family history is of little importance. Each member of the family, including relatives, servants and others who may reside in the home, should have a tuberculin test; and every one exhibiting a positive test should have a thorough examination, including an acceptable x-ray of the chest. Any member of the household manifesting symptoms or signs of pulmonary disease should be examined even though the tuberculin test is negative. Repeated sputum examinations should be made in suspected cases where sputum is available. Accepting a single negative sputum examination as final often leads to disaster.

Determine Source of Contact: If such a searching investigation fails to reveal the source of infection in the home, we must consider the possibility of contact with tuberculous teachers, neighbors, or visiting friends and relatives. Finally, hand to

mouth infection must be considered. The baby on the floor, the child playing jacks or marbles on the street, may easily make contact wtih tubercle bacilli which have been deposited there by someone suffering from open tuberculosis. Occupants of the home may carry tubercle bacilli on their feet or they may be carried in by dogs and cats. Contaminated food may constitute another source of hand to mouth infection.

Thanks to those who have instituted the wise handling of dairy herds in this country and the added precaution of pasteurization of milk before delivery, we see relatively little bovine tuberculosis in the United States. However, we must not forget the possibility of infection from undiscovered tuberculous cows privately owned or in dairy herds.

We must admit that the execution of the proposed program is often difficult. Nevertheless, the obligation rests squarely upon the shoulders of the physician who discovers a positive tuberculin test. Fortunately for those physicians who may not be interested, or who may not desire to carry out such a program, the aid of specialists or voluntary and public health agencies in the field of tuberculosis may be secured. The same sources of service may be recommended to the physicians who are interested in executing the program but feel the need of help with certain phases of the examination.

The Duty of the Family Physician in the Presence of a Positive Tuberculin Test, Lewis J. Moorman, M.D., Jour. Okla. State Medical Assn., Jan., 1937.

TWENTY-FIVE YEARS AGO

(Taken from the March, 1912, Issue of the W. Va. Medical Journal)

Dr. G. H. Barksdale of Richmond, Virginia, has recently located in Charleston. The doctor has offices in the Bowen Building.

* * * * *

The State Board of Health of West Virginia passed the following resolution at its meeting in November, 1911:

WHEREAS, Many of the papers of applicants for license to practice medicine in the State of West Virginia show a lamentable ignorance of even the rudiments of elementary education; and,

WHEREAS, Many such applicants are from schools which, in their advertising literature, profess to require a fair preliminary education, some of them being members in good standing of the Association of American Medical Colleges, and consequently pledged to a minimum requirement of a high school certificate; therefore, be it

Resolved, That the attention of all medical colleges, considered as now acceptable by this board, be called to these facts to the end that they may enforce strictly their professed requirements, thus keeping faith with the public and with the profession; and further

Resolved, That it is the sense of this board, that after January the first, 1912, the board would be justified in striking from the lists of colleges now acceptable to it, all those institutions whose graduates in their examination papers evince imperfect preliminary education;

Resolved, That these preambles and resolutions be published in the WEST VIRGINIA MEDICAL JOURNAL and in the *Journal of the American Medical Association,* and that a copy of them be sent to the various colleges interested.

EYES RIGHT!

Merely by observing the condition of a person's eyes, the oculist gets an index of the working condition of his patient's thyroid glands; whether—when he is cross-eyed—he is nearsighted or farsighted; what he hasn't been eating, as well as the nature of the food he has taken in; his approximate age, and whether he has any gall-bladder disease, liver trouble, a brain tumor, cancer or locomotor ataxia. Dr. Morris D. Keller reveals these facts in his article "The Eyes Have It," appearing in the February *Hygeia.*

The only part of the human body where one can see and study a living artery, vein or nerve is in the eye. With an ophthalmoscope one can look into the back of the eye, the fundus, see these structures and, studying them, discover diseases not only of the eye but of other organs of the body also.

Arteries pulsate, and veins do not. In the eye the reverse is true. A pulsating central vein is normal. A pulsating central artery is indicative of valvular disease of the heart, an aneurysm of the carotid arteries, anemia or exophthalmic goiter. The blood vessels often rupture, and the resulting hemorrhage into the retina causes an inflammation to be set up.

In a cross-eyed person if either one or both pupils turn inward, he is farsighted; if they turn outward, he is nearsighted.

PRESIDENT'S PAGE

During the past month it has been my good fortune to visit the Ladies' Auxiliaries of Logan and Fayette counties and the Logan, Raleigh and Greenbrier Valley Medical societies. If the Auxiliary members and the doctors who attended these meetings are typical of all our county organizations, then I have no fear for the welfare of organized medicine in West Virginia.

Before each of these county societies I spoke on the subject of "Social Security." I selected that subject because medical participation under the Social Security Act is the biggest problem confronting our profession today. For some two thousand years we have had the privilege and the responsibility of caring for illnesses of the poor. Now the state has accepted that responsibility and we are to be paid for our services to the indigent. Our present problem, therefore, is to be found in the method of payment and the amount to be paid.

The method of payment must, first and always, include the free choice of physician. Upon that principle we must stand or fall. That principle is recognized by the West Virginia Department of Public Assistance and its Advisory Board and must be followed in every county. If any county administrators are not following this principle of "free choice" such information should be sent at once to our State Association.

The amount to be paid for our services is a problem that will have to be worked out over a period of time and adjusted to funds available for public assistance. If we are to render indigent medical service for the state, we desire modest fees commensurate with the services rendered. On the other hand we do not want the medical profession to be responsible for any undue financial burden upon total relief funds available for the poor. It now appears that if all indigent medical bills are paid for services in both the home and the hospital, there will not be enough money in the relief budget to carry out any other phase of the relief program.

Of one thing I am sure. The fee schedule for home and office calls, representing the work of the family doctor, the doctor who does the drudgery of medical practice, will be paid in full. Whatever curtailment that may be found necessary will apply not to the country doctor or the family physician but to the work that is done in our hospitals by our surgeons and other specialists. Until this problem is finally worked out on a basis of mutual satisfaction, may I ask that the surgeons of our Association join with me in protecting the family doctor.

President

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INDIGENT MEDICAL SERVICE

It now appears from recent conferences between the Association's Medical Advisory Committee and the Department of Public Assistance that there will not be sufficient funds, at least for the present, to carry out a full and complete program of indigent medical service in the home, office and hospital. Already in some of the counties, bills for surgical services have exceeded the monthly allocation for the entire medical service program.

Because of the present insufficiency of funds, the medical profession is placed in an awkward position. It is logical to assume that if the state accepts the responsibility for giving medical service to the indigent, then the state should pay those who render that service. It is also logical to assume that if any duly large proportion of relief funds is paid to the doctors, then the medical profession will suffer in prestige and popularity. Somewhere between those two points lies the solution of our present problem.

Until such time as sufficient funds are available for a complete medical service program, the Association's Advisory Committee has recommended that the plan as outlined in the manual be carried out in toto so far as home service and office calls are concerned. They have further recommended that after all bills for home and office service and hospital ward rates are paid in full at fee schedule rates, whatever funds remain in the medical service budget shall be prorated on a proportional basis to those doctors who have rendered surgical service.

In recommending the above plan, it was the purpose of the Advisory Committee to give first consideration to the rural doctors and family physicians who, as Dr. Fulton has pointed out in his President's Page, "do the drudgery of medical practice."

A thorough study of the present Public Assistance set-up has convinced the Committee that the budgetary allowance for the medical service program, which is insufficient at the present time, will be much more equitable as time goes on. At the present time the overhead cost of administering the entire relief program is unusually high because of the great expense of investigating all applicants, whether worthy or unworthy, for public assistance. As soon as these investigations are completed, the administrative cost will immediately drop.

A second consideration is the present rush for surgery and hospitalization by chronic sufferers who have just been accepted for public assistance. It has been the experience of most of the hospital insurance plans in this country that a decided financial loss is suffered the first year because subscribers hurry and have necessary surgical work done that has been postponed for months and years. Apparently this will be the experience of the Department of Public Assistance in this state. If so, we may look for a decided decline in surgery and hospitalization about the first of next year. When that time comes, the funds for the medical service program will go much further than they do at this writing.

In closing may we urge every doctor to cooperate to the fullest extent in carrying out the Public Assistance medical service program on a sound and sensible basis and be governed accordingly. Let us go along and take care of the poor as we have always done in the past, and leave it up to our Association Advisory Committee to work out whatever plan is best for all concerned.

BASIC SCIENCE BILL

As we go to press, our basic science bill now pending before the West Virginia legislature is still weathering the storm but is still a long way from port. It was reported out of the House Committee on Medicine and Sanitation on February 22 with a recommendation that it pass, and is now on the House calendar where it is designated "House Bill 188." In the Senate (Senate Bill 98) it is still being held in committee but will perhaps be out on the Senate floor before this issue of the JOURNAL appears.

The bill was printed in its entirety on page 76 of the February JOURNAL. Briefly reviewing its contents, we give the following abstract:

> The Basic Sciences are Physiology, Chemistry, Anatomy, Bacteriology, Pathology and Hygiene and Public Health.
>
> The Basic Science Board created by the bill will be composed of University professors and Assistant Professors who are especially proficient and trained in these particular subjects; none of whom will be connected with any branch of the healing art.
>
> The Basic Science Board will be self-supporting, and will give examinations in the basic sciences to all candidates who desire to practice any branch of medicine.
>
> The present licensing boards are not disturbed by this bill, but before a candidate may appear before his own board he must first pass the basic science examination.
>
> The bill does not affect any person already engaged in any branch of medical practice in West Virginia.

Almost all of our county medical societies have gone on record endorsing this Association measure and have so notified their senators and delegates. This support has been felt in the legislature and has helped to move the bill along. But even more important is the support of the individual doctors. We urge every doctor to write a personal letter NOW to his county delegates and district senators and request them not only to support our Basic Science Bill but to get behind it and actively assist in pushing it through. Remember also that a letter is much more effective than a telegram.

MEDICAL FILMS AVAILABLE

The Association headquarters is in receipt of a catalog indicating 16 mm. films available on medical, surgical, health and hygiene subjects. The catalog is compiled by the Bell and Howell Company, Chicago, Illinois. The listings are all 16 mm. safety films exclusively, which, being non-inflammable, can be shown anywhere by anyone. The contents of the catalog include the following:

(a) Medical and surgical films for professional use only.

(b) Health and hygiene films, National distribution.

(c) Health and hygiene films, Limited distribution.

The films are listed by their source, available conditions under which they may be had and the titles of the films themselves. The various films listed in the catalog are available directly from the sources listed. Doctors and county societies interested in films such as those described may secure further information by writing the Association or to the Educational Division, Bell and Howell Company, 1801 Larchmont Avenue, Chicago.

ARBITRATION OF FEES

In the City of New York thousands of doctors draw very considerable fees from accident cases. These fees do not always come from the injured person, but more often from the insurance companies. They are not always paid willingly or entirely and are fre-

quently subject to adjustment. Nearly 2,000 of such fees are in controversy in the City of New York, entailing a delay for the doctor in obtaining remuneration and for the insurance company in clearing its record.

But New York State is trying a new experiment for adjusting such fees equitably and expeditiously.

Inspired by the voluntary arbitration system of the National Bureau of Casualty and Surety Underwriters, the amendments to the New York Workmen's Compensation Act passed in 1935 contain a provision for the arbitration of disputes on medical fees.

The Compensation Insurance Rating Board, in conference with officials of the Labor Department and the American Arbitration Association has worked out an administrative plan for making this provision effective. Under this plan the insurance carrier files an objection with the Industrial Commission, with which is also filed an agreement to arbitrate and to abide by the award which is signed by both parties to the dispute. The rating board then arranges for a hearing before four arbitrators, two appointed by each side from special panels of doctors that have been appointed for the purpose through the cooperation of the county medical societies. When the four arbitrators fail to agree on a decision they select a fifth doctor whose decision then becomes final. It is anticipated that the questions arbitrated will involve not only the size of the doctor's fees but also his competency and his disposition to follow ethical standards.

So interesting and practical has this method of settling claims become that a special journal is now published by the American Arbitration Association, known as *The Arbitration Journal.*

The West Virginia State Medical Association has had its own experience in this field in the settling of medical claims against the Workmen's Compensation Department and the old West Virginia Relief Administration. It was, and still is, unusually successful.

COUNTY SOCIETY NEWS

BARBOUR-RANDOLPH-TUCKER

The regular meeting of the Barbour-Randolph-Tucker Medical Society was held at the Marion Inn in Philippi, on the evening of January 20, 1937. Dr. W. Scott Smith, president, presided.

The following new members were admitted to the society:

Dr. F. B. Murphy, Galloway; Dr. A. K. Wilson, Elkins; Dr. J. M. Brand, Coketon.

Dr. J. O. Rankin of Wheeling presented a very interesting scientific program. His paper was concerned chiefly with fractures involving the upper third of the femur and their treatment. It received much favorable comment from the society.

During the business session the society passed a resolution to the effect that the physicians belonging to the B-R-T Society express to the members of the West Virginia Legislature their approval of the Immunization Bill now before that body.

The president appointed the following committees to cooperate with the Social Security Boards in their respective counties:

Barbour County—Dr. W. S. Smith, Dr. Hu Myers, Dr. G. H. Michael.

Randolph County—Dr. W. G. Harper, Dr. O. L. Perry, Dr. R. S. Wolfe.

Tucker County—Dr. S. Weisman, Dr. H. H. Bolton, Dr. S. J. Skar.

The next meeting of the society will be held in Elkins. Through the courtesy of Dr. Smith, president, a delightful lunch was served.

G. H. MICHAEL, *Secretary.*

BOONE COUNTY

A special meeting of the Boone County Medical Society was called at Madison, on February 11, for the purpose of electing a Medical Advisory Board to the County Social Security Board. The following persons were elected:

Dr. H. H. Howell, Madison; Dr. W. F. Harless, Madison; Dr. W. V. Wilkerson, Highcoal; Dr. R. L. Hunter, Madison.

The following resolution was adopted:

WHEREAS, The West Virginia State Medical Association through its Executive Secretary and Legislative Committee is sponsoring House Bill No. 188 and Senate Bill No. 98, which have to do with a Basic Science Law in the State of West Virginia, a copy of said bill having recently appeared in the

JOURNAL of the West Virginia State Medical Association, therefore

Be it Resolved, That the Boone County Medical Society unanimously go on record as favoring the above named Legislative Bill, and

Be it Further Resolved, That our Secretary be instructed to transmit this information to the members of the House and Senate of the West Virginia State Legislature representing this district and urge them to support said bill.

R. L. HUNTER, *Secretary*.

BROOKE COUNTY

The Brooke County Medical Society met on January 13, at the home of Dr. Ray C. Otte in Wellsburg. The meeting was interesting and well attended.

Dr. C. S. Bickel of Wheeling was the guest speaker of the society. He delivered an interesting lecture accompanied by a showing of films furnished by the State Health Department entitled "Birth Injuries" and "Postpartum Hemorrhage."

Following a general discussion adjournment was called until February.

* * * * *

On February 10, a business meeting was held at the home of Dr. Ralph McGraw in Follansbee. The society went on record as being unanimously in favor of West Virginia State Legislature House Bill No. 188 and Senate Bill No. 98. The society also endorsed the bill sponsored by the State Health Department requiring compulsory immunization for smallpox and diphtheria in all school children. Letters were immediately sent out to the delegates and senators from Brooke county in regard to the society's action concerning these bills.

After a discussion of other business matters the meeting adjourned until a later date.

W. T. BOOHER, *Secretary*.

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Pritchard Hotel on Thursday, February 11, at 8:30 p. m.

The scientific program was presented as follows:

Case report of "Erysipelas Treated by Roentgen Ray Therapy", by Dr. F. L. Coffey of the Huntington Memorial Hospital.

Case report of "Possible Carcinoma of the Lung," by Dr. Paul M. Huddleston of the Chesapeake & Ohio Hospital.

Case report of "Acute Lymphatic Leukemia", by Dr. L. F. Dobbs, Jr., of St. Mary's Hospital.

These reports were presented in a pleasing manner and were followed by general discussions.

CHAUNCEY B. WRIGHT, M. D., *Secretary*.

FAYETTE COUNTY

Dr. A. V. Cadden of Hopemont Sanitarium, Terra Alta, W. Va., was the guest speaker at the regular meeting of the Fayette County Medical Society, held at the Woman's Club, Montgomery, W. Va., at 8 o'clock on February 16, 1937.

Dr. Cadden presented the modern treatment of pulmonary tuberculosis, illustrating his paper with a series of slides. A general discussion followed this paper, indicating the interest of the society in the subject and speaker.

GILBERT A. DANIEL, *Secretary*.

GREENBRIER VALLEY

The regular meeting of the Greenbrier Valley Medical Society was held at the Greenbrier Hotel, White Sulphur Springs, on the evening of February 17 with a record attendance of members from Greenbrier, Union and Pocahontas counties. The guest speaker for the occasion was Dr. W. S. Fulton of Wheeling, president of the West Virginia State Medical Association.

Dr. Fulton addressed the society on the "Social Security Program" for West Virginia. His talk was of great interest and covered the various phases of medical participation in the social security act. Mr. Joe W. Savage, state secretary, was also present and discussed legislation now pending before the West Virginia legislature.

Following the program, a delicious repast was served to the members and guests present, with Dr. Guy Hinsdale, Medical Director of the Greenbrier, as host. In addition to the speakers, the society was fortunate in having as its guests a number of the members of the dental profession and the county public assistance administrators from Union, Pocahontas and Greenbrier counties.

A. G. LANHAM, *Secretary*.

KANAWHA COUNTY

The February meeting of the Kanawha Medical Society was held on the ninth at 8:15 p. m. in the Daniel Boone Hotel, Charleston.

The scientific program was presented by Dr. M. Pierce Rucker of Richmond, Virginia. His subject was "Perineorrhaphy with a Note on Longitudinal

Knotless Sutures". The address was accompanied by moving pictures. Dr. Rucker's subject, developed as it was from early history of medicine down to the present time, was both amusing and instructive.

Dr. Thomas H. Blake of the State Health Department supervised the showing of two films entitled "Postpartum Hemorrhage" and "Complications in Second Stage of Labor." These were of much interest to the group.

During the business session reports of special and standing committees were heard.

Claude B. Smith, *Secretary*.

LEWIS COUNTY

The regular monthly meeting of the Lewis County Medical Society was held on February 9, at the Lewis County Memorial Building in Weston, with the president, Dr. E. A. Trinkle, presiding.

A bulletin from the State Association office was read asking the support of the society for the Basic Science Bill before the House and Senate. The society endorsed the bill and instructed the secretary to write the Lewis county delegates and senators accordingly.

The scientific program was presented by Dr. H. M. Andrew and Dr. A. F. Lawson. Their subject was "The Menopause." Dr. Andrew discussed the medical aspect and Dr. Lawson the surgical aspect of the subject. An informal discussion followed.

Following the business session adjournment was called until the March meeting.

Theresa O. Snaith, *Secretary*.

LOGAN COUNTY

Dr. W. S. Fulton, Association president, was the guest speaker at the meeting of the Logan County Medical Society which was held on February 11 at the Aracoma Hotel, Logan. He discussed the various phases of the Social Security Act and spoke particularly of medical participation in the act. It was his wish that the medical profession get behind the social security program, so far as it pertained to the medical care of the indigent, and make our part of the work an outstanding success.

The state secretary, Mr. Joe W. Savage, accompanied Dr. Fulton to Logan and spoke briefly on legislation now pending at Charleston.

There was a large turnout for the meeting and many questions were asked of the speakers. A buffet luncheon was served following the program.

T. F. Farley, *Secretary*.

MARSHALL COUNTY

The Marshall County Medical Society met on February 16, at the Elk's Club rooms, Moundsville. The meeting was well attended, doctors from McMechen, Cameron and other surrounding towns being present.

Dr. James K. Stewart of Wheeling, eye, ear, nose and throat specialist, was the guest speaker. He delivered a lecture on the common cold, its many complications, especially sinus and mastoid infections.

The society endorsed proposed legislation designed to bring about immunization of West Virginia school children against smallpox and diphtheria before they become of school age.

The society will meet again in March.

J. A. Striebich, *Secretary*.

McDOWELL COUNTY

The regular monthly meeting of the McDowell County Medical Society was called to order by R. H. Edwards, president, at 8:00 p. m. on February 10, in the Community Room of the Appalachian Electric Power Company in Welch.

Dr. C. B. Chapman of Welch was in charge of the program which consisted of motion pictures dealing with various medical and surgical subjects including meningitis, cesarean section, emergency treatment for fractures of the lower extremities, surgical anatomy of the genitourinary tract, and cholestectomy.

During the business session, Doctors F. H. Goodwin of Welch, Adam McClintic Bird of Northfork and J. A. Bowers of Caretta were elected to membership in the society.

O. H. Fulcher, *Secretary*.

MONONGALIA COUNTY

The Monongalia County Medical Society met Tuesday evening, February 2, in the Marine Room, Hotel Morgan, Morgantown, at 6:00 p. m. for dinner.

Following dinner, Dr. S. B. Chandler, Professor of Anatomy, West Virginia University, presented the scientific program. His subject was "Blood Supply in the Proximal End of the Femur

and its Relation to Fractures of the Neck of the Femur." This topic was interesting and instructive and was followed by a general discussion.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

The eighth scientific session of the Ohio County Medical Society was held on Friday, February 5, 1937. The meeting was called to order by the president, Dr. R. J. Armbrecht, at 8:45 p. m. All business matters were dispensed with in view of the nature of the scientific program.

A very interesting case of juvenile diabetes was presented by Dr. J. T. Thornton.

The scientific paper of the evening was delivered by Dr. E. P. Joslin of Boston, who spoke on the general subject "Progress and Treatment of Diabetes Mellitus." Dr. Joslin outlined developments in recent years in the field of dietary control, the use of regular insulin and discussed extensively the use of protamine insulin. As usual, Dr. Joslin's talk was extremely interesting and enthusiastically discussed by Dr. Robert Snyder, Dr. W. M. Sheppe and Dr. Thornton.

Resolutions of respect in the death of Dr. B. D. Morrison were read by Dr. C. H. Keesor.

The society cancelled its meeting on January 22, because of flood conditions. The speaker for that occasion was to have been Dr. J. H. J. Upham, president-elect of the American Medical Association. The society deeply regrets their inability to entertain Dr. Upham.

One hundred and five members and guests were in attendance.

A special business meeting was called by the president, Dr. R. J. Armbrecht, for Monday, February 8. The secretary read bulletins received from the following sources:

1. A letter from Mr. Joe W. Savage asking for support of the society in the passage of House Bill No. 188 and Senate Bill No. 98. Dr. Fawcett moved, seconded by Dr. W. K. Kalbfleisch, that a letter be written to the various representatives from Ohio county supporting the above mentioned Basic Science Bill.

2. A telegram was read from the Kanawha County Medical Society offering medical aid during the flood.

3. The secretary announced that Dr. Morris Fishbein would be in Wheeling, February 12 to address the Woman's Club at 8 o'clock p. m. The secretary was instructed to inquire as to the length of Dr. Fishbein's stay in Wheeling and refer the matter to the Entertainment Committee for action.

Dr. Morell, director of the Ohio County Unit of the Department of Public Assistance, was present and explained the proposed medical set-up.

Dr. R. J. Reed discussed Dr. Morell's talk and described the functions of the Social Security Committee of this society. Dr. Armbrecht explained the mechanics by which calls were to be referred to different physicians. Dr. W. S. Fulton also explained the difference between the aged, blind and rehabilitation cases.

A resolution was introduced from the chair relating to the establishment of fees for medical examinations ordered by the courts. The resolution was as follows:

"*Be it Resolved*, That all examinations made of persons involved in litigations when the Court appoints a Doctor of Medicine to make such examination, the fee shall be one hundred dollars."

This resolution was discussed, seconded and unanimously adopted.

The Committee on Lodge and Contract Practice (Chairman, Dr. H. B. Copeland) presented a report in which they declared lodge practice as carried out in Wheeling to be unethical and asked that it be investigated by the Board of Censors.

Adjournment was called at 10:15 p. m.

The officers of the Ohio County Medical Society have this year established as a token to one of their outstanding members, the Annual Jacob Schwinn Scientific Lecture. The speaker for this occasion will be chosen each year by the Jacob Schwinn Study Club from the membership of the Ohio County Medical Society. The essayist for 1936-1937 Jacob Schwinn Scientific Lecture was Russell Conwell Bond, M. D.

The lecture was delivered at a meeting of the Ohio County Medical Society on Friday, February 19 in the Solarium of the Ohio Valley General Hospital. Dr. Bond's subject was "The Thymus Gland." The address was presented and developed in a most interesting and instructive manner. An interesting discussion followed.

W. M. SHEPPE, *Secretary*.

PARKERSBURG ACADEMY

The Parkersburg Academy of Medicine met at St. Joseph's Hospital, Parkersburg, on February 4, at 9:00 p. m.

The speaker of the evening, Dr. Albert D. Frost, Columbus, Ohio, was introduced by the secretary. Doctor Frost gave a very interesting and enlightening paper on "Ophthalmological Problems Met in General Practice." Doctors S. M. Prunty, E. C. Hartman, Welch England, C. E. Park and H. H. Veon took part in the discussion which followed.

During the business session which followed, a telegram from the Kanawha Medical Society offering assistance during the flood was acknowledged and a motion was presented and unanimously adopted, instructing the secretary to extend to the members of the Kanawha Medical Society the gratitude and appreciation of the members of the Academy for their proffered assistance during the distress of the flood.

The basic science law pending in the state legislature was discussed and briefly explained by A. R. Sidell, president; Dr. Prunty and the secretary. A motion by Doctor Prunty and seconded by Doctor Hartman, instructing the secretary to write letters to respective legislators urging their support of the bill was unanimously adopted.

The name of Dr. E. S. Woodyard of Pennsboro was brought up for membership and was unanimously accepted.

The meeting was well attended.

A special meeting of the Parkersburg Academy of Medicine was called on February 16, for the purpose of discussing the local situation with reference to the Social Security Act. Doctor A. R. Sidell, president, explained to the assembly that the local administrator for Wood county has deemed it impracticable to follow the set-up as worked out between the Advisory Committee of the State Association and the State Administration Committee of the West Virginia Social Security Act.

Doctor R. B. Miller, chairman of the Academy Advisory Committee to the Wood County Administration, stated that his committee had met with the County Committee but had not accomplished a great deal due to the fact that the county administrator preferred the services of two physicians on salary to carry out the medical service plan.

After thorough discussion by several members of the Academy the following resolution was presented by Doctor Barker and seconded by Doctor Jeffers:

Resolved, That the Society as a whole will abide by the decisions and actions of the Advisory Committee and will support the committee in its efforts to solve the local situation.

Resolution adopted.

Dr. W. R. Goff presented the following resolution, seconded by C. D. Kraft and unanimously adopted.

Resolved, That the Academy approve "The Manual of Procedure" for the Social Security Act and for each member to pledge himself to cooperate in carrying out the provisions of the Manual.

The meeting was well attended. Adjournment was called at 11:00 p. m.

BERLIN B. NICHOLSON, *Secretary*.

RALEIGH COUNTY

The Raleigh County Medical Society held its regular monthly meeting beginning with a dinner at the Beckley Hotel, Beckley, on the evening of February 18 with an excellent attendance. The meeting was called to order by Dr. L. G. Houser, president, and a brief business session was held.

The guest speaker of the evening was Dr. W. S. Fulton, Wheeling, president of the West Virginia State Medical Association, who spoke on Social Security and allied problems confronting the medical profession. Dr. Fulton outlined the social security act and went into detail upon the work of the medical profession under this act. He urged the active cooperation and support of the entire medical profession in taking care of the indigent at a cost that could be met by the Public Assistance Department.

The Association's executive secretary, Mr. Joe W. Savage of Charleston, was also present and spoke briefly on the work of the Association during the present legislative session at Charleston.

L. M. HALLORAN, *Secretary*.

TYLER-WETZEL SOCIETY

At the meeting of the Tyler-Wetzel Society in New Martinsville, held on February 9, it was decided to dissolve the society and form the Wetzel County Medical Society because of an apparent lack of interest and attendance among physicians in Tyler county. The following resolution was passed:

"Moved that we organize a Wetzel County Medical Society and by doing so we do not bind any physician from Tyler county to belong but leave them free to seek membership here or elsewhere."

The new organization elected the following officers:

Dr. T. B. Gordon, New Martinsville, president; Dr. L. P. Stanley, Pine Grove, vice president; Dr. K. M. Hornbrook, New Martinsville, secretary-treasurer.

The following doctors were appointed as delegates to the State Convention:

Dr. V. H. Kemper, Sistersville, and Dr. F. E. Martin, New Martinsville.

K. M. HORNBROOK, *Secretary.*

OBITUARIES

DR. MARCUS L. DILLON

Final rites for Dr. Marcus L. Dillon, 58, who died at Lewisburg, W. Va., Sunday, January 31, were held in Lewisburg and burial was made in Rosewood cemetery on February 2, 1937.

Formerly in active practice in Charleston as an eye, ear, nose and throat specialist, Dr. Dillon was widely known in West Virginia. He was born in October, 1880 at Indian Mills, Summers county, the son of the Rev. and Mrs. Henry Dillon. He attended public schools in Summers county, was graduated from the College of Physicians and Surgeons in Baltimore in 1909. He began practice at Green Sulphur Springs, Summers county and later practiced at Hinton.

Dr. Dillon later served as a surgeon in the U. S. Army during the World War. In 1918 he started to specialize in the treatment of the eye, ear, nose and throat at Asheville, N. C.

Dr. Dillon was an honorary member of the Kanawha Medical Society, the West Virginia State Medical Association, and a member of the American Medical Association. He contributed largely to the success of the Association's legislative program in 1935 as chairman of the legislative committee.

Dr. Dillon is survived by Mrs. Dillon, two daughters and one son.

DR. S. S. WADE

Dr. Spencer S. Wade, 79 years old, a practicing physician in Morgantown for more than a half century, died at his home on January 22, of an internal hemorrhage after a long illness. Dr. Wade had been in ill health for several years.

Dr. Wade was born in Clinton District, July 29, 1857. He attended the public schools and then entered West Virginia University from which he was graduated with three others in 1879. He entered the offices of Brock Brothers in Morgantown and for two years was a student in the medical department of the University. In 1882 he entered Jefferson Medical College in Philadelphia and received his degree in 1884. Dr. Wade did post graduate work in the medical department of the University of the City of New York, Bellevue Hospital and the Eye and Ear Infirmary of New York.

Dr. Wade served many years on the Morgantown Board of Education, was a charter member and first president of the Rotary Club and a pioneer in the work for crippled children in West Virginia. He was a former president of Alpha of West Virginia Chapter of Phi Beta Kappa.

In the medical world, Dr. Wade was a former President of the West Virginia State Medical Association, a life-long member of the Monongalia County Medical Society, the American Medical Association and the American Public Health Association.

GENERAL NEWS

FEVER THERAPY CONFERENCE

In conjunction with the International Conference on Fever Therapy to be held at the Waldorf-Astoria Hotel on March 29, 30, 31, 1937, there will be a scientific and commercial exhibit staged.

The clinics will be held at the College of Physicians and Surgeons, Columbia University, New York City.

A large attendance of fever therapists from all over the world is expected. A very interesting and instructive program has been arranged and all of those who plan to attend the conferences are urged to register promptly with the general secretary, Dr. William Bierman, 471 Park Avenue, New York City.

ANNUAL POSTGRADUATE INSTITUTE

The Second Annual Postgraduate Institute of the Philadelphia County Medical Society to be held in Philadelphia, April 12-16 has a most imposing list of speakers among whom are: Dr. David Riesman, Dr. Chevalier Jackson, Dr. Gabriel Tucker, Dr. Louis H. Clerf, Dr. William D. Stroud, Dr. Richard A. Kern, Dr. Harry P. Schenck, Dr. J. Alexander Clarke, Jr., Dr. Edward L. Bortz, Dr. Robert G. Torrey, Dr. Hobart A. Reimann, Dr. Howard Childs Carpenter, Dr. Leon H. Collins, Jr., and Dr. Eugene P. Pendergrass.

At the dinner which will be held on Wednesday evening, April 14, Dr. J. Shelton Horsley of Richmond, Virginia, will deliver the Dr. J. Chalmers DaCosta Oration on "Peritonitis."

The subject of this year's meeting, "Diseases of the Chest and Upper Respiratory Tract," is one of widespread interest and a large attendance of physicians from the entire east is expected.

UNIVERSITY OF LOUISVILLE

The University of Louisville Medical School is the second oldest medical school now in existence west of the Allegheneys and the oldest municipal medical college in the United States. It celebrates its Centennial, March 31 to April 3, 1937 at Louisville, Kentucky.

The alumni are urged to make their plans now to attend their alma mater and participate in the celebrations. There is an excellent clinical program by outstanding guest speakers, with ward rounds daily at the hospital and lectures in the forenoon and afternoon. There will be numerous scientific exhibits in the various departments of the University. For the visiting ladies unusually interesting entertainment has been provided. There will be motor trips through the local parks and to the famous bluegrass region. The historic Old Kentucky Home at Bardstown and Lincoln Memorial at Hodgenville are also included in the itinerary. Mammoth Cave is within easy motoring distance for those who wish to visit this natural wonder. Lexington and the famous race horse stables are but a short distance from Louisville and in the heart of the bluegrass region.

The alumni will shortly receive advance notices and printed programs of the Centennial celebrations. They are urged to make their plans now to attend.

FROM OTHER JOURNALS

STATE MEDICAL BOARDS

To consider the interests of the medical profession is often thought to be the principal responsibility of state licensing boards, whereas, in fact, they exist primarily and fundamentally for the protection of the citizens of the various states.

As governmental agencies they are equally concerned with medical education, licensure and practice, and by virtue of authority possess certain obligations not inherent in other national agencies. From the point of view of protecting the public, the exercise of the power of licensing boards in determining educational standards and qualifications for practice is largely nullified unless accompanied by equally effective exercise of authority in the elimination of the unlicensed and unqualified from the care of the sick.

It is generally acknowledged that the principal objective of medical licensure is the establishment of regulations for the purpose of protecting the public. The principles of licensure comprise two methods, the restrictive and the definitive. The former prevails largely in this country and restricts any individual from practice except those who comply with certain regulations and conditions to carry on such practice. This is controlled principally by state board examinations. The second, or definitive, plan is the method of Great Britain, which designates those who have complied with the required conditions of education and qualification, and leaves the individual to choose the practitioner he wishes to employ.

There are two ways of dealing with the problem constituted by the existence of unqualified practitioners. One is the non-legal, which involves removing the causes which lead people to go to them. The second involves their suppression by legal means. The first approach is the more fundamental and in the long run the simpler and more effective. The major factors responsible for the growth of cults and limited practitioners are credulity, ignorance and superstition on the part of the public.

It is difficult to get the public to understand the importance of legislative protection in regard to medical practice, and in consequence there is much misunderstanding as to the purpose of the legal definition of licensure standards, or regulation of the healing art by legal procedure. On the other

hand, the public is very receptive of all information regarding the achievements of modern medicine and surgery and the greater possibilities of preventive medicine. The public is equally responsive to all efforts to advance the educational standards and training of physicians.

It is timely to consider referring the responsibility of preparation and qualification entirely to the Council on Medical Education and Hospitals of the American Medical Association. Frequent surveys of medical schools by the Council made in cooperation with the Federation will provide the necessary approval required for the guidance of boards of medical licensure, thus, with annual registration and adequate enforcement and disciplinary procedure, insuring the public the highest standards of medical practice. Such a method will make a stronger appeal to the public mind than the more restrictive type of practice regulations. Likewise, under such a policy the licensing board exerts more wisely its obligation to protect public health and the welfare of the individual citizen.—*Federation Bulletin.*

WHY AM I A DOCTOR?

Legislatures and general assemblies are in session all over the land. Under many a legislative roof the statutes are being saturated with socialistic poison. Lest the medical profession should feel that it has a right to ignore what the lawmakers are doing with complete disregard to the safety of both their rights as doctors and their rights as men it may be well to persue the following excerpts made recently by Floyd S. Winslow, M. D., President of the Medical Society of the State of New York, at the eighth district branch of the medical society of the State of New York at Buffalo, October 15, 1936, upon the topic "Why Am I a Doctor?"

"Once in a while, it will be good for us doctors to indulge in what might be called a 'periodic self-examination.'

"Certainly we are not doctors because of the money that is in it. Generally speaking, our companions of early years who selected business pursuits have outstripped us in gathering together the collection of objects which represents monetary success. *Why* did we go into medicine? *Why* do we stay in medicine? *Why* do we live for, *fight* for, and sometimes *die* for medicine?

"Glory? Where is the romance in our pursuit, for those who follow it? It is said that every ship is a romantic object save the ship we are sailing in, and medicine has romance for those who do not practice it. We work in the quiet of the sick room, or the hospital; we walk daily with troubled humanity. Our satisfaction can derive only from the knowledge that we have performed our obligation to heal the sick,—in this way paying the debt we owe for that accumulated knowledge and experience of the ages which has been made available to us.

"The great majority of doctors is imbued with the purpose to discharge this obligation. The public should be definitely told, that the most important thing it should inquire about, when selecting a doctor, is whether he is genuinely interested in his calling, loves his profession and is not only intent to attain ability as a physician but feels a responsibility to advance the capacities of the medical profession as a whole. This is, as you know, the main ideal and objective of medical societies. The man who has such a goal as this in mind as a destiny, is a man who can be fully trusted with the lives of men, and women and children. Let us see how this works out.

"The test of this criterion is, in other words, a test of character. A man joins his county medical society. He considers that when he was given the right to practice medicine, he assumed an obligation to do his part to see that medicine, as a profession, preserved its integrity. The only way integrity can be attained or retained, is to work for it. When he joins his local medical society he works for the integrity of himself and his group. He renders himself open to the criticism of his peers. He says, in effect, 'I intend to behave myself, to put the interest of my patient above my own, to observe all the other provisions of the oath of Hippocrates, in letter and in spirit. And not only do I intend to do this, but by joining the county medical society *I have to do it*—I lay myself open to penalties if I do not.'

"The public should be told that a doctor who is a member of his county medical society is a better doctor on this account. I think a patient should ask his doctor, if he is not a member of the medical society, why he is not a member. It is possible, of course, that a physician may be of the highest rank, and not be a member, there is nothing compulsory about it, but as I go over in my mind the names of the physicians who I find have lived so that their

excellence is beyond possible question, I *do not think I can name one who is not a member of his county medical society.*

"Now if our loyalty to our profession is merely another form of loyalty to society—to mankind—a point comes up which I wish now to mention. The world today is facing deep and important problems. Confusion abides in the minds of men. Quacks are abroad plying their trade in the realm of *economics and sociology* as well as in that of *medicine.* Large groups of people are assuming to know that which they do not know. They are contemptuous of the experience of the past, and of the experience of individuals; they decry special skills; they substitute rhetoric for reason. So we have *another obligation, just as basic as the medical obligation,* and that is a *social obligation.* We must reach out and interest ourselves in these questions which are quite outside medicine, but which need a generous skepticism to counteract what often seems to be a pathological optimism. We have not repaid our debt to society when we merely heal the sick. *In some respects, the well need healing, too.* That is to say, if we are not to have all our values, and all our superiorities broken down. 'One man,' Mr. Dooley said, 'is not only as good as another, but a damned sight better.' There are no experts left. There are only simplifiers. And what are we doing about it?

This is not a matter of partisan party lines: the same kind of thinking is to be found everywhere. The public is coming to believe that it is capable of exercising its opinion, its judgment, on difficult technical problems, with no knowledge, no experience. Further than this the public expresses that opinion in response to a catchword. In fact the general public does not even make the effort to think a problem through on a rational basis, using the information, however inadequate, which it has in its possession. These are symptoms of grave danger. Sooner than we think, we may see the complete triumph of mediocrity. And there is only one way in which we medical men can make effectual remonstrance, and that is at the polls on each election day. Those who have made inquiry state that the *proportion of doctors who vote is only one in three.* Need I say that this is a disgraceful record? Need I urge you to consider its significance deeply, when so many public policies are formulating which may advance or retard the healing art? You know what various candidates stand for, and in general, if not specifically, what type of legislation may be expected of them. Your knowledge, your judgment, is ineffectual unless you vote.

"After you have asked yourself why you are a doctor, ask yourself another question, a larger question. Are you a citizen, in fact rather than in name, if you fail to exercise the obligations of a citizen in exchange for its advantages? If we work in our own societies to preserve the integrity of medicine but fail in the larger society of American affairs to preserve the integrity of our civilization, efforts on the one part may easily be frustrated by inaction on the other."—*Illinois Medical Journal.*

STATE MEDICINE IS STATE MEDICINE

These are trying and turbulent times, making it difficult even for the person with a logical and well-ordered mind to remain consistent.

To illustrate: There are some members of the medical profession who deplore in rather warm words the gradual extension of state medicine and almost in the same breath ask the state to dip into some fund to pay them for services rendered to certain groups of citizens—not always those in the indigent classification, either.

State medicine is state medicine regardless of the trimmings. The medical profession might just as well face the issue frankly and courageously. It can't have its cake and eat it. The state medicine which exists today did not come about over night, but gradually; in a series of short steps. Additional demands certainly will expand the coverage.

This does not mean that some of the medical and public health functions carried on under state supervision and financed with public funds are not desirable and necessary. Quite the contrary is true. At the same time, the medical profession must be consistent. It cannot be consistent if it tries to stave off state medicine with one hand and extends the other for state bounties.

All of which opens the way for quoting the following excerpt from a recent statement issued by the Board of Trustees of the American Medical Association with respect to increasing demands of certain groups for drastic extension of governmental medicine:

"In the past, the medical profession has always been willing to give of its utmost for the care of those unable to pay. The available evidence indicates that today throughout the United States the

indigent are being given a high quality of medical care and medical service. Nevertheless, the advances of medical science have created situations in which a group of the population neither wholly indigent nor competent financially find themselves under some circumstances unable to meet the costs of unusual medical procedures. The Board of Trustees of the American Medical Association points out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all those unable to pay either in whole or in part. Members of the medical profession, locally and in the various states, are ready and willing to consider with other agencies ways and means of meeting the problems of providing medical service and diagnostic laboratory facilities for all requiring such service and not able to meet the full cost thereof. These are problems for local and state consideration primarily rather than problems of federal responsibility. The willingness of the medical profession to adjust its services so as to provide adequate medical care for all the people does not constitute in any sense of the word an endorsement of health insurance, either voluntary or compulsory, as a means of meeting the situation." —*Ohio State Medical Journal.*

FIRST AID UNITS

Red Cross first aid posts have been established at strategic points along the busy highways, at service stations, tourist inns, rural police stations and fire departments. "Stop Highway Carnage!" is the title of S. R. Winters' article that appears in the February *Hygeia.* It tells of Red Cross activities to reduce the annual death toll on the highways.

To complement the stationary posts a mobile unit of several thousand trucks vigilantly patrols the highway. These cruising hospitals have the obvious advantage of reaching the scene in a hurry when the accident does not occur close at hand. Their drivers and crews must pass courses in both standard and advanced first aid. Each truck bears a marker identifying it as a Red Cross mobile first aid unit.

To educate the public on safety requires more than warnings against injury and careless driving. They must be taught how accidents occur and how they could have been prevented. The Red Cross is teaching its adult first aiders how to prevent accidents as well as how to handle them.

WOMAN'S AUXILIARY

FAYETTE COUNTY

The Auxiliary to the Fayette County Medical Society met at the home of Mrs. F. S. Harkleroad, Harvey, W. Va., for luncheon at 1:30 p. m. on January 21. Mrs. Harkleroad, president, presided.

Miss Laura Burrow, public health nurse of Fayette County gave a very instructive lecture on public health work.

Mrs. Ralph Hogshead, Montgomery, reviewed "Victim's of Advice" from *Hygeia* in a very interesting manner.

Eleven members attended the meeting. Adjournment was called until February at which time the Auxiliary will convene in Montgomery.

MRS. G. G. HODGES, *Secretary.*

KANAWHA COUNTY

The Auxiliary to the Kanawha Medical Society met in the Rose Room of the Ruffner Hotel for luncheon on January 12, 1937. Dr. W. S. Fulton, president of the State Association, was the guest of honor. Mrs. Robert Price, president, presided. Forty-six members were present.

Dr. Fulton addressed the group on the subject of "Social Security and Medical Participation in Social Security in West Virginia." This topic proved very interesting and instructive.

The Kanawha Auxiliary met on February 9, at the home of Dr. and Mrs. S. L. Bivens in South Ruffner. Twenty-nine members were present. Hostesses assisting Mrs. Bivens were: Mrs. E. V. Jordan, Mrs. W. C. Polsue, Mrs. Hugh Robins, Mrs. R. L. Anderson, Mrs. R. O. Halloran, Mrs. A. A. Wilson and Mrs. C. B. Smith.

Dr. H. Webb Angell was the guest speaker. He discussed abnormalities of the eye, eye strain and diseases that destroy the vision and their treatment.

Mrs. M. F. Petersen reviewed the latest issue of *Hygeia.*

After tea the meeting was adjourned until March.

MRS. CLAUDE B. SMITH, *Secretary.*

LOGAN COUNTY

The Logan County Auxiliary met at the home of Mrs. B. D. Smith of Omar, W. Va., on February 2, 1937. Mrs. J. L. Patterson presided over the meeting. Eleven members were in attendance.

Dr. S. B. Lawson was the guest speaker and chose for his subject "The Early Practice of Medicine in Logan County." This was a very interesting and amusing subject.

Mrs. C. A. Martin reviewed the last *Hygeia*.

During the business session a vote was taken to donate ten dollars to the Salvation Army for flood refugees.

The March meeting of the Auxiliary will be held on the second at which time the Auxiliary will be luncheon guests of Dr. Lawson at the Aracoma Hotel in Logan.

MRS. F. L. ROUND, *Secretary*.

MARION COUNTY

The Auxiliary to the Marion County Medical Society met on January 26, for six o'clock dinner at the Fairmont Hotel. Mrs. John Helmick, first vice president, presided over the meeting. Sixteen members were present.

Mrs. C. L. Parks, chairman of the Legislative Committee, spoke briefly on current legislative topics of interest to the medical profession.

Dr. Rush Lambert addressed the meeting on bills of interest to the Medical Association which are coming up in the present session of the legislature and urged the support of all Auxiliary members for these bills.

Dr. W. S. Fulton, president of the State Association, was guest of honor at the dinner and spoke to the group briefly on some phases of medical economics. Dr. H. Y. Swishes, member of the Advisory Board of the local medical society was also a guest.

The February meeting of the Auxiliary is scheduled for the twenty-third.

MRS. J. R. TUCKWILLER, *Secretary*.

McDOWELL COUNTY

The McDowell Auxiliary met on January 13, at the Appalachian Club Rooms in Welch, W. Va. Mrs. J. Howard Anderson, president, was in charge of the meeting. Fourteen members were present.

HYCLORITE

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A general discussion of the Auxiliary's business was the principal item on the program for the afternoon. Several notes from principals of schools receiving *Hygeia* from the McDowell Auxiliary and expressing appreciation for same were read.

Mrs. Anderson was asked to invite all state officers of the Auxiliary to visit the McDowell Auxiliary sometime before the state meeting which is to be held in May.

Announcement was made of a son born to Dr. and Mrs. Ralph Counts recently.

The Auxiliary expressed its regret over the loss of Mrs. L. T. Browning, formerly of Coalwood, as one of their members. Mrs. Browning has gone to Illinois to join Dr. Browning in his new location.

The next meeting of the Auxiliary will be at the above location during the month of February.

MRS. H. P. EVANS, *Secretary*.

SEAL OF ACCEPTANCE

If they could talk, Council Seals would say:

"When you see one of us on a package of medicine or food, it means first of all that the manufacturer thought enough of the product to be willing to have it and his claims carefully examined by a board of critical, unbiased experts . . . We're glad to tell you that this product was examined, that the manufacturer was willing to listen to criticisms and suggestions the Council made, that he signified his willingness to restrict his advertising claims to proved ones, and that he will keep the Council informed of any intended changes in product or claims . . . There may be other similar products as good as this one, but when you see us on a package, you know. Why guess, or why take someone's self-interested word? If the product is everything the manufacturer claims, why should he hesitate to submit it to the Council, for acceptance?"

PROTAMINE ZINC INSULIN

Physicians have been advised that protamine zinc insulin, Squibb, is now available. The new form of treatment which this new preparation now makes possible has been declared the most notable advance in the treatment of diabetes since the discovery of insulin in 1921.

Protamine zinc insulin is slowly absorbed and the duration of action of a single dose is about

(Continued on page xxiii)

McMILLAN HOSPITAL Charleston, W. Va.

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General Surgery:
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J. Ross Hunter, M. D., F. A. C. S.
I. P. Champe, Jr., M. D.
W. O. MacMillan, M. D.

Obstetrics:
U. G. McClure, M. D.

Obstetrics and Gynecology:
F. A. Clark, M. D.

Eye, Ear, Nose and Throat.
V. E. Holcombe, M. D.

Roentgenology:
V. L. Peterson, M. D.

Internal Medicine:
H. L. Robertson, M. D., F. A. C. P.
William C. Stewart, M. D.

Medicine and Pediatrics:
Hugh G. Thompson, M. D.

Orthopedic Surgery:
Randolph L. Anderson, M. D.

Urology:
Thomas G. Reed, M. D.

Pathology:
M. Gillies, M. D.

Resident Physician:
H. W. Ward, M. D.

McMillan Hospital Training School; Sara Hamilton, R. N., Supt. of Nurses; Alma McKay, R. N., Asst. Supt.
Miss Myrtle Mullins, Instructress ::-:: Winifred McWhirter, Night Supervisor.

(Continued from page xx)

three to six times that of unmodified insulin. For most patients, one injection a day is adequate. It is indicated chiefly in those diabetics particularly difficult to control with unmodified insulin because of the frequency of hypoglycemic reactions and the necessity for several daily injections of insulin. However, because it is slowly absorbed protamine zinc insulin is not recommended in cases of diabetic coma, in diabetes complicated by infection or in the event of surgical operation.

BENZEDRINE SULFATE IN FATIGUE

Myerson (Arch. Neur. & Psych., 30:816, Oct., 1936) suggests the use of benzedrine sulfate (benzyl methyl carbinamine sulfate S. K. F.) to alleviate certain types of fatigue and depression.

When administered to normals suffering from fatigue and slight malaise due to insufficient rest or sleep, immediate benefit and relief of a pleasant type were experienced. To obtain this result 10 mg. upon arising was usually sufficient. The effect lasted two hours or more. A dose of 30 mg. was apt to produce restlessness and over-excitability; and sleeplessness at night followed administration in the late afternoon. No ill effects and no signs of craving were noted in any of the patients. Blood pressure was not appreciably affected by 10 mg., but a rise sometimes followed a 20 mg. dose, and the use of the drug in the presence of hypertension is inadvisable. As an emergency measure for normals to dissipate the effects of a disordered night's sleep or of insufficient rest, the drug is probably of benefit.

Benzedrine sulfate was also given to a group of cases suffering from neuroses associated with depression, fatigue and anhedonia. Although the difficulty of a scientific evaluation of treatment in neuroses is recognized, benzedrine seemed to have an ameliorative effect with a definite though limited value.

In only two cases was its action unfavorable. Its effects were not curative or permanent, but it tended to lessen the depression and increase the feeling of energy. Given in small divided doses in the morning its use is suggested during treatment by other means and while natural recovery is taking place.

In eighteen cases of dementia præcox, benzedrine sulfate was found to be without effect on catatonic or hebephrenic states.

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DOROTHY JOHNSTON ..... *Superintendent of Nurses*
LOUISE LYNCH ..... *X-ray and Laboratory Technician*
MRS. D. A. LYNCH ..... *Dietician*

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PERINEORRHAPHY, WITH A NOTE ON LONGITUDINAL KNOTLESS SUTURES

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According to Thomas Denman,[18] care of the perineum is a distinctly Christian procedure. Before the advent of Christianity when polygamy was in vogue, little attention was paid to the perineum, but when "one wife only being allowed to one man and she being supposed to possess the entire affections of her husband, every disease or infirmity which might render her person less agreeable to him, became of infinite consequence to their mutual happiness." On the other hand, Goodell[28] in his classical article says that Denman is mistaken and that the ancients took pains to protect the perineum. Some confusion is caused by the loose and inaccurate use of nomenclature. The Greek word for uterus and vagina is used indiscriminately and the same is true for ulceration and laceration. Hippocrates[35] knew of lacerations of the perineum. He says "In countries exposed to north winds, parturition is difficult. Frequently consumption attacks the women whose throes produce ruptures and lacerations." Aristotle[6] taught that young girls were frequently injured in giving birth because their parts are undeveloped. Paulus[64] Aegineta makes many references to lacerations produced by violent labor. The recognition of lacerations was naturally followed by recommendations for their prevention.

As long as the care of parturient women was in the hands of midwives, efforts to prevent lacerations consisted of the applications of salves and emollients. Aëtius[1] in the fifth century directs the midwife not to lacerate the uterus, but to hasten to put the woman on the obstetric stool. Although the ancients knew of perineal lacerations, the first description of an actual case is credited to Eros[84] or to Albertus Magnus,[4] Bishop of Ratisbon. The former, sometimes called Trotula, is a legendary figure who occupies somewhat the same relation to midwives that Hippocrates does to physicians. If she existed at all she lived in the early days of the University of Salerno. Be that as it may there is a book in

the Miller Library in which she describes a complete laceration and its cure. She says for certain women, childbirth has an unfortunate termination on account of the failure of the midwives.[84] For there are certain women whose vagina and anus become one opening and the same passage, then the womb moves out from them and becomes hard. To the womb we apply hot wine in which butter is bubbling and gently put it back. Afterwards we sew the rupture within the anus and the vulva in three or four places with a silken thread; after this we apply a linen bandage to the vulva. Next we besmear it with pitch. This indeed causes the womb to draw itself back on account of its stink. Finally we heal the rupture with powder made of black briony, etc. The woman should be laid upon her bed for eight or nine days in such a manner that her feet are higher.

The Bishop of Ratisbon[4] admits that his information was gained from midwives. As soon as obstetricians had first-hand knowledge they began to recommend various mechanical means of preventing lacerations. The writers in the eighteenth and nineteenth centuries, when discussing the process of labor, devote considerable space to the support of the perineum. Goodell[28] summarizes the countless methods for protecting the perineum as follows: "There are those who make pressure upon the perineum to retard the head; those who make pressure to accelerate its advance; those who deny that any such effects can be thus produced, and those who conscientiously use support because something must be done.

"Again, there are those who direct all the pressure at the fourchette; others who reprehend this, and as carefully guard the posterior perineum; and yet others who will not touch the perineum on any account. Further, there are those who push the perineum backwards; and those who, for equally plausible reasons, push it forwards. Some dilate the sphincter vagina; some the sphincter ani; and some who plug it up. Some place their hands transversely across the perineum; some longitudinally with the fingers looking upwards; some longitudinally with the fingers looking downwards; some who attack it with their knuckles. Some scoop out the head with the vectis; others drag it out by the ears, and yet others who rely on the forceps. Finally, there are those who use the right hand, and those who swear by the left hand. Some who advocate a folded napkin; some an unfolded napkin; and others who frown down upon all napkins, folded or unfolded." Goodell then describes a new method: He hooks two fingers of the left hand into the rectum and pulls the sphincter ani towards the pubes and at the same time presses on the baby's head with the thumb so as to oppose its too rapid progress.

Bland,[28] Nägele,[28] Faust,[28] Wigand,[28] Schmidt,[28] Ritgen,[28] Killain,[28] Grand-Champ,[28] Danyau,[28] Sacombe,[28] Deleurye,[28] and Hunter McGuire,[47] believed that any support is unnecessary. West,[28] Swayne,[28] Graily Hewitt,[28] Taylor,[28] Thompson[28] and Leishman[41] thought it positively injurious. Giffard[26] who according to Stander[80] was the first to direct attention to the advisability of attempting to prevent perineal lacerations, recommended in forceps delivery to remove the forceps and express the head. Bard[7] in the first book on obstetrics to be published in America emphasizes the importance of posture. His directions to midwives are so sensible that I quote them in full.

"The part which is most apt to suffer during this period, is the perineum, or that portion of skin which extends from the anus to the external orifice; which, from the extent of one inch or an inch and a half, is stretched to that of four or five inches, and reduced to the thinness of paper. The perineum and adjoining parts are relaxed, and prepared for so great a change by the secretion of a large quantity of mucus, by which the parts are softened, and a disposition to yield and stretch is given to them; at the same time that they are lubricated by it, so as to suffer the child's head to slide easily through them.

And whenever there happens to be a deficiency of this mucus, or when, by improper handling, it has been rubbed off, and its secretion checked, or when a violent and sudden labor does not allow sufficient time for this secretion to take place, and give to those parts a proper disposition to dilate, the perinæum is apt to be torn, always an unfortunate accident, and one which sometimes subjects the woman to great misery and inconvenience during the rest of her life."

"To prevent this accident, is the principal business of the midwife in a natural labor, and her attention is to be directed towards it, from the very commencement of labor, to the complete delivery of her patient: with this in view, she has been directed to avoid irritating these extremely tender parts, by frequent and unnecessary examination, or any rude and preposterous attempts to stretch and extend them, as well as to avoid heating her patient by improper diet, cordials, and spirituous liquors; by the use of which fever is brought on, the parts become rigid, and are easily torn. From the commencement of this stage of labor, a woman becomes less inclined and less able to move, and the delivery may be expected to be accomplished in a short time."

"The woman is now, therefore, to be laid on her bed, in a proper posture for delivery: that is, on her left side, with her hips brought to the edge of the bed, and her knees drawn up, with a pillow between them, and her feet supported against the bedpost, a floorboard, or against some person sitting on the bed; taking care not to draw her thighs too much up towards the belly, nor to separate the knees very wide, both which put the perineum on the stretch, and increase the danger of its being torn."

In cases in which ruptures occurred, the ancients recommended various salves and ointments. Moschion,[56] who lived in the second century and who is the earliest writer to describe natural labor, advised a cerate for the lacerations which so frequently resulted from the throes and stretchings of labor. Galen[25] recommended a plaster composed of bull's testes, saffron and roses. In 1833 Dupuytren[20] showed in his clinic a central laceration of the perineum with torn sphincter that was completely cured by keeping the woman's thighs tightly bound together. Even as late as 1849 reliance was placed in rest and cleanliness. Robert Lee[43] describes the following case: "The sphincter was entire and with attention to cleanliness, keeping the knees together, and drawing off the urine night and morning for some weeks, the torn parts became united much more completely than could have been expected, and the functions of the rectum restored."

Pare[62] is said to have been the first man to suture the perineum. Quoting from Johnson's translation, "But if through violence of the extraction the genital parts be torn, as ancient writers affirm it hath come to pass, so that the two holes, as the two holes of the privy parts and of the fundament have been torn into one, then that which is rent must be stitched up and the wound cured according to art, which is a most unfortunate chance for the woman afterwards, for when she shall travail again she can not have her genital parts to extend and draw themselves in again by reason of the scar. So that then it will be needful that the chirurgeon shall again open the place that was cicatrized, for otherwise she shall never be delivered, although she strive and contend never so much. I have done the like cure in two women that dwell in Paris."

According to Jameson[38] suture of perineal lacerations had become an accepted practice in the time of Tulpius. Roux[70] on the other hand says that after Guillemeau's[30] time the operation was seldom if ever performed until the close of the eighteenth century when two French surgeons, Noel[60] and Saucerotte performed it with complete success using twisted sutures. Since that time it has been put in practice about one-half dozen times in France, but in most cases with little or no benefit to the patient. The English surgeons seem to have altogether neglected this field

of surgery. The Germans have not contributed any essential improvements. Diffenbach[19] of Berlin has been the most zealous.

Thomas[82] gives the palm for introducing primary perineorrhaphy to Mauriceau.[50] De LaMotte[41] cites a successful case of immediate repair and a second in which the patient refused both an operation at the time of the injury and again after some years. Perineorrhaphy regardless of the type was slow in being adopted. We find Rodericus à Castro[15] objecting to sutures on the ground that the scar will be torn in the succeeding labor. The great Smellie[78] reports an attempt at repair of a third degree laceration: "I attempted with scissors to pare the edges, as in hare-lip; but could not possibly hold the parts so as to effect this purpose. I then armed a lancet, and with the point scarified them, and with great difficulty made two deep stitches through the vagina and rectum and two in the perineum; but in two days this brought on a large inflammation, and the stitches all tore out. The parts digested and skinned over, but did not cement or join together; however they contracted in such a manner, that in three months after she could retain her excrements."

Gooch[27] does not write as though the operation were a common occurrence in 1832. "I do not know why we may not operate here as for hare-lip, by paring the edges of the parts, and keeping them in contact, with a view to their union. I have now two patients using an instrument devised to palliate this malady, which they say is very effectual. They can now visit, or receive company; the instrument is a circular band of steel, which goes around the body just above the hips; from behind, a piece of steel, somewhat elastic, and so fixed as to admit of its being moved to either side, descends, and incurves forward between the nates, and then turns a little upwards. At the end of this piece of steel is an ivory ball, on which is placed a sponge sufficiently large to cover the vulva, perineum, and anus. When the patients evacuate the bowels, they have only to turn it on one side." Merriman[53] about the same time wrote: "The cure is very difficult, in some cases impossible. If the rent does not extend through the sphincter ani the torn parts will sometimes coalesce so as to form a tolerable perineum. * * * Sometimes the edges of the wound are brought together by suture, but this has seldom if ever, been attended with good effects; on the contrary the ligatures have been found to slough away, and the patient has in consequence been left in worse condition than before. This mode of practice is therefore generally discontinued."

Sir James Y. Simpson[76] was more optimistic. In the first place he was one of the first to recognize the frequency of perineal lacerations. He said "he had seen no first labor terminate without laceration of some of the parts." This is in marked contrast to Alexander Hamilton[32] who in the previous century said a laceration seldom occurs and generally is the consequence of disease. Sir James kept the patient on her side and applied no dressing. With extensive lacerations, he had seen repair with metallic sutures successful, but he had also seen failures. He reports having sewed a complete tear with iron wire and the wound healed by first intention. When cicatrization without union had taken place, operations "have been carried out by Guillemeau and more recently by Roux, Noel and others. In America, Mettauer operated successfully using lead wire for his sutures, and a mass of cases are scattered about in our surgical and gynecological records which sufficiently attest the value of the operation. But it is only of late that it has been fully received as an established operation and described in our text-books, and no doubt we are in great measure indebted to Mr. Baker Brown for bringing it more prominently under the notice of the profession." Meigs[51] on the other hand thought that "the suture only adds to the sum of the local injury, and is not inapt to generate an erysipelatous propensity in the parts." Even as late as 1889 the operation of immediate perineorrhaphy was not a recognized part of obstetric teach-

ing. Quoting from Mundé[57] "It remains for me to show how most of these evils may be prevented in a large majority of the cases by a means which should be—though not described in works on midwifery—recognized and employed by every practitioner of the obstetric art, that is, the immediate closure of the rent." The author preferred silk to silver wire, three or four interrupted sutures running completely under the laceration as first advocated by Alloway[5] of Montreal.

In the first operation of which we have record,[84] silk was the suture material used. Since that time almost every imaginable suture material has been tried in the perineum: hemp,[69] waxed twine,[12 55] saddler's silk,[55] and kangaroo tendon.[48] Merriman[53] even tried adhesive plaster, but with poor results. Mettauer[54] used lead wire, Sir James Y. Simpson[76] iron wire and Agnew[2] silver plated iron wire. Marion Sims[77] introduced silver wire and this was used by Emmet,[24] Lane,[42] Playfair[65] and many others.[39 66 81] Grad[29] in a recent article describes an ingenious method of preventing excoriation from the cut ends of the silver wire sutures. Bröse is credited with being the first to use catgut in perineorrhaphy and this was soon adopted by Martin,[49] Werder[86] and many others.

The manner of securing the sutures has varied as much as the suture material itself. In the early days the twisted[17 60 71] suture as was used in hare-lip was quite popular. This was supplanted by the quilled suture.[12 17 42 55 69 71] The sutures were tied over goose quills, gutta percha bougies, bone and metal plates. Many operators substituted perforated shot for knots.

Variety was further introduced in the manner of handling the sphincter. Some stretched it[9 1-2] and some dissected it out.[39] Willard Parker,[63] Horner,[37] Lane,[42] Baker Brown[12] and Schuh[74] of Vienna divided the sphincter in one or two places to keep this muscle from pulling apart the adjacent repair. In late repairs a great deal of discussion has been over the method of denudation. Too much credit can not be given to Emmet[23 66] who put the third dimension into the operation.

Finally there has been much variety of opinion as to the time of taking the sutures. Pare,[62] and Guillemeau,[30] evidently sutured the wound after cicatrization had taken place. It was not until Mauriceau's time that primary perineorrhaphy was attempted. Since then there has been great difference of opinion on this point. Colombat[16] says that Dupuytren's failure was due to taking the sutures too early. Thomas[81] in 1880 says that the time for repair is (1) immediately; (2) after a few days, and (3) after all effects of parturition have disappeared. To the first class belonged Diffenbach,[19] Danyeau,[17] Baker Brown,[12] Demarquay,[81] Scanzoni,[81] Simon,[81] Thomas,[81] Kriss[40] and others[65]; to the second, Nélaton,[59] Werneuil,[81] and Maisonneuve; and to the third, Roux[70] and Velpeau.[85] More recently, Hirst[36] and Tracy[83] have advocated the second type of repair, while Bubis,[13] Bloss,[8] Sellers and Sanders[75] and Edwards[22] have advocated repairing neglected lacerations after a subsequent delivery. Had I the literary ability of a Goodell, I might prepare as interesting a paragraph about the differences of opinion of the ways of and time for repairing a perineum as he did about the means of protecting it.

Incision of the perineum is looked upon as a modern operation, yet as was mentioned above, Paré[62] said that it was necessary in the labor subsequent to stitching the perineum for the resulting scar was so firm that it could not be overcome by the natural forces of labor. Bourdet[9] in a Paris thesis of 1806 reports cases of rupture or rather division of the perineum, by means of a coin. This method was employed by ignorant midwives for the purpose of augmenting the diameter of the vulva and thus facilitating the escape of the child. In the four cases reported, the results were anything but good. Sir James Y. Simpson[76] advised that when a tear is inevitable, direct it laterally by making two small incisions towards the tuberosities of the ischium. When the parts contract they leave

very small cicatrices. Ramsbotham[68] recommended that four nicks be made in vagina indurated with old scars and von Ritgen[10] as many as 14. Tyler Smith[79] thought that "in rare cases the perineum is so rigid and unyielding as to offer an obstacle to the advance of the head. Under these circumstances, when fomentations, tartar emetic, venesection, and chloroform, have been inefficient, it has been recommended that the perineum should be incised. Incision is believed to prevent extensive laceration, and the incised wound heals rapidly after labor." The name "episiotomy" was first used by Carl Braun[10] in 1857 and the first to suggest the closure of such wounds was Pallen.[61]

The advantages of the operation do not seem to have been appreciated in the nineteenth century. Quoting from Playfair[65] whose 7th American edition was published in 1898: "When the tension is so great that laceration seems inevitable, it is generally recommended that a slight incision should be made in each side of the central raphé, with the view of preventing spontaneous laceration. I believe with Goodell that incision of the perineum is rarely necessary, unless it is hardened by previous cicatrization."

A new era in perineorrhaphy began in 1929 when Royston[72] read his paper, "Repair of Complete Perineal Lacerations." Emphasis was laid upon avoiding devitalizing tissue with crushing instruments, tension on sutures, and knots within the wound. Marcy and Little also stressed the importance of avoiding knots. In the discussion Hadden[31] reported satisfactory results with continuous sutures of silk worm gut and no knots at all. For years I had sought some means of overcoming the cutting of interrupted sutures when swelling set in the next day. If the sutures were tied so loosely that this did not occur, the edges of the wound were not in good enough apposition to secure primary union. I tried brass tubes the length of which could be varied by screwing one half over the other. The ends of the sutures were run through the tube as if it were a perforated shot and tied at the distal end. The tension on the sutures was loosened by screwing the tubes to make them shorter. The manipulation of the tubes proved to be awkward and unsatisfactory. Hadden's continuous sutures of silkworm gut without knots appealed to me as the solution of my problem. I tried out this idea on immediate repair of perineal lacerations and episiotomy wounds and even on a third degree laceration where a repair with catgut had failed,[73] with uniformly good results. Usually three sutures, each more superficial than its predecessor will close a second degree laceration. If one is skeptical about the sutures accommodating themselves to the swelling, one need only to fix a perforated shot on the suture three-fourths inch from the skin. The next day the shot will be snugly against the skin. The comfort of the patient is another proof of the same thing.

The most severe test to which I have put this method was in the case of a third degree laceration of several years standing which I repaired in the puerperium. This patient was a white woman, 26 years old, who came to the I. V. N. A. Clinic on May 4, 1931. She was married in 1923 and in due time was delivered in another city with instruments. The result was a stillborn baby and a complete laceration. Subsequently she had two living children. She was expecting her fourth child on June 20, 1931. Examination showed a justo minor pelvis with a diagonal conjugate of 11 cm. There was a complete laceration of the perineum, the red anal mucosa forming the posterior wall of the vagina for a distance of three-fourths of an inch. The patient had no control of the bowels but had become resigned to her condition as an immediate and late repair both had failed. After some persuasion the patient agreed to let me try another repair when her baby was born but she would not consent to go to the hospital especially for the operation. The patient went into labor July 5, and was delivered at the Retreat for the Sick by Dr. Vitsky, of a seven pound, two ounce baby

girl. The labor lasted 14 hours, 22 minutes, and the delivery was unaided. The puerperium was afebrile. On July 10, 1931, the perineal repair was done under spinal anesthesia (60 mgm. of novocaine). The usual denudation was done. The first longitudinal suture of silkworm gut was just over the rectal mucosa and turned the mucosa into the anal canal. The ends of the sphincter on either side of the anus were dissected free and brought together with a mattress suture of chromic catgut. This was the only catgut and the only knot used. The perineum was then built up with longitudinal sutures of silkworm gut, the fourth being a submucous and subcuticular one. The patient was put on a liquid diet. She was perfectly comfortable and was given no morphine. On July 16, she was given an oil enema and was allowed a soft diet. On July 18, the bowels moved once. The skin just above the anterior border of the new anus gaped open one-fourth of an inch. There was no pain upon defecation and the control was excellent. On July 19 she had running off of the bowels in the night. Her control was excellent, although once she had to wait one-half of an hour for the pan. She was allowed to sit up July 22. Examination at the clinic on August 17, showed a perfect perineum except for a small defect in the contour of the anterior anal margin. The sutures were removed. The sphincter control has been entirely normal. I believe that the healing would have been entirely by first intention had it not been for the knot in the catgut.

The complications due to the silkworm gut have been minor ones. Occasionally the sutures would break when being removed or the patient when allowed to go home in a few days, would cut them off flush with the skin, and then it would be months before the suture material would be discharged; an embarrassing situation especially if the patient fell in the hands of another doctor. For this reason my colleague, Dr. James Whitfield, Jr., began experimenting with chromic catgut. He used No. 2 chromic catgut very much in the same way we had used silkworm gut, except that the suture starts under the edge of the mucosa and extends around the upper end of the wound and the end of the suture is left long so as to be used for the next layer of stitches. In this way all the sutures are buried, the last suture, the one that brings the mucosa and skin together is a submucous and subcutaneous one. The ends of all the sutures are brought out an inch or so away from the wound and as far from the anus as it is convenient, and are cut off flush with the skin. Thus we have in effect four longitudinal sutures in tiers one above the other, the upper ends of which begin under the mucous membrane within the vagina and the lower ends are cut short as they emerge from the skin. There are no knots. This makes an extremely comfortable perineorrhaphy. Rarely does a patient ever mention "stitches". Except in cases of third degree lacerations the after care is the same as though there were no sutures. In the few third degree tears that we have had, we have followed the plan of a low residue diet as outlined by Royston. I have had 449 repairs done in this manner with chromic catgut, with excellent results in all save one. This one broke down and was repaired on the sixth day with silkworm gut, a primary union resulting.

When Hess'[34] article recently appeared, in which he showed the advantages of less suture material in the perineum, we adopted his suggestion of using smaller sizes of catgut and so far have had no untoward result. Just last week I saw in the clinic a third degree laceration that Dr. Whitfield had repaired with No. 1 chromic catgut. The result was perfect.

In conclusion I wish to stress the following advantages of knotless longitudinal sutures of chromic catgut in perineal repair:

1. There is no tension on the sutures.
2. There is no constriction of tissue.
3. The necessary after care is practically nil.

4. As a corollary of the above, the patient is comfortable.

5. In the exceptional case which breaks down an intermediate repair with silkworm gut can be done and a primary union obtained.

BIBLIOGRAPHY

1. Aetius: *Medici Graeci contractae ex veteribus medicinae tetrabiblos, hoc ist, quaternio. sive libri universales quatuor, singuli quatuor sermones complectentes, ut sint in summa quatuor sermonum quaterniones id est, sermones sedecim, per Ianum Cornarium medicum physicum latine conscripti.* Lugduni, Godefr. et Marcell Beringer, 1549, p. 857.

2. Agnew, D. Hayes: *Lacerations of the Female Perineum and Vesico-Vaginal Fistula; Their History and Treatment.* Philadelphia, Lindsay and Blakiston, 1873.

3. Aitken, John: *Principles of Midwifery, or Puerperal Medicine.* 2nd Ed., Edinburgh, 1785, p. 174.

4. Albertus Magnus: *De Secretis Mulierum.* Amstelodami, Henricum et Theod. Boom. 1669, p. 78.

5. Alloway, T. Johnson: Am. J. Obst. 17:16, 1884.

6. Aristotle: De Republica, lib VII. cap. 16.

7. Bard, Samuel: *A Compendium of the Theory and Practice of Midwifery.* New York, Collins & Perkins. 1808, p. 121.

8. Bloss. J. R.: South. M. J. 27:439, 1934.

9. Boudet, J. M: *Observationes sur la rupture du perinee et sur l'elephantiasis.* Paris, 1806.

9½. Bovee, J. Wesley: Tr. South. Surg. & Gynec. Assn. 11:101, 1898.

10. Broomall, Anna E.: Am. J. Obst., 11:517, 1878.

11. Brose: Centracbl. f. Gynak. 7:777, 1883.

12. Brown, Isaac Baker: *On Rupture of the Perineum and its Treatment,* illustrated by cases, read before the Medical Society of London. London, J. Churchill, 1852.

12. Brown, Isaac Baker: Am. J. M. Sc., 25:511, 1853.

13. Bubis, J. L.: Am. Journal Obst. & Gynec. 10: 213, 1925.

14. Burns, John: *The Principles of Midwifery,* 5th American Ed., Philadelphia, J. R. A. Skerrett, 1820, Vol. 1, p. 58.

15. a Castro, Rodericus: De Universa Muliebrium Morborum Medicina. Ed. 5, Coloniae Agrippnae, Sumpt. S. Noethen, 1689, p. 442.

16. Colombat de L'Isere: *A Treatise on the Diseases and Special Hygiene of Females.* Translated by Charles D. Meigs, Philadelphia, Lea and Blanchard, 1845, p. 217.

17. Danyeau: Am. J. M. Sc. 7:472, 1844.

18. Denman, Thomas: *Introduction to the Practice of Midwifery.* New York, E. Bliss & E. White, 1821, p. 283.

19. Dieffenbach: Am. J. M. Sc. 23:495, 1839.

20. Dupuytren: Am. J. M. Sc., 11:525, 1822.

21. Dupuytren's Lecture: Boston Med. & Surg. J., 8:181, 1833.

22. Edwards, G. H.: J. Florida M. A., 21:101, 1934.

23. Emmet, Thomas Addis: Tr. Am. Gynec. Soc., 8:198, 1883.

24. Emmet, Thomas Addis: *The Principles and Practice of Gynecology,* Philadelphia, Henry C. Lea, 1879, p. 387.

25. Galen (quoted by Goodell).

26. Giffard, William: *Cases in Midwifery.* London, B. Motte, 1734, pp. 396-398.

27. Gooch, Robert: *A Practical Compendium of Midwifery.* Philadelphia, E. L. Carey and A. Hart, 1832, pp. 55, 56.

28. Goodell: Am. J. M. Sc., 61:53, 1871.

29. Grad, H.: Am. J. Obst. & Gynec., 30:863, 1935.

30. Guillemeau, Jacques: Les oeuvres de chirurgie, Paris, N. Buon., 1612, p. 354.

31. Hadden, David: Tr. Am. Ass. Obst. Gynec. & Abd. Surg. 42:65, 1929.

32. Hamilton, Alexander: *Outlines of the Theory and Practice of Midwifery.* First Worcester Edition, Worcester, Mass., Isaiah Thomas, 1794, p. 155.

33. Harvie, John: *Practical Directions Showing a Method of Preserving the Perineum in Childbirth,* etc. London, 1767.

34. Hess, Orvan W.: Surg. Gynec. & Obst., 63: 308, 1936.

35. Hippocrates: *The Genuine Works of Hippocrates.* Translated by Francis Adams, N. Y., William Wood & Co., Vol. 1, p. 159.

36. Hirst, Barton Cook: Am. J. Obst., 75:752, 1917.

37. Horner, W. E.: Am. J. M. Sc., 20:329, 1850.

38. Jameson, Edwin: *Gynecology and Obstetrics,* Paul B. Hoeber, Inc., N. Y., 1936, pp. 15, 23, 35, 48, 118, 119, 122, 123, 142.

39. Kelly, H. A.: Tr. South. Surg. & Gynec. Assn., 11:77, 1898.

40. Kriss, Bruno: Wein. med. Wochenschr. 85:809, 1935.

41. de La Motte: *A General Treatise of Midwifery.* Translated by Thomas Tomkyns, London, James Waugh, 1746, p. 481.

42. Lane, James: Lancet 2:289, 1865.

43: Lee, Robert: *Clinical Midwifery.* First American Ed. Phila., Lea & Blanchard, 1849, p. 44.

44. Leishman, William: *A System of Midwifery.* 2nd Am. Ed., Phila., Henry C. Lea. 1875, pp. 277, 280, 573, Glasgow Med. J., 8:410, 1860.

45. Lindsay, William B.: Boston M. & S. J. 31: 319, 1845.

46. Little, Herbert M.: Am. J. Obst., 27:414, 1934.

47. McGuire, Hunter: Va. M. Month. 3:138, 1876-77.

48. Marcy, Henry O.: Tr. Am. Ass. Obst. & Gynec. 1:69, 1888.

49. Martin, A.: Berl. klin. Wochenschr. 26:108, 1889.

50. Mauriceau, Francis: *The Diseases of Women and Child and in Child Bed.* Translated by Hugh Chamberlen, Ed. 6th, London, A. Bell, 1718, p. 268.

51. Meigs, Charles D.: *Woman—Her Diseases and Remedies,* 3d Ed., Philadelphia, Blanchard & Lea, 1854, p. 84.

52. Mercurialis Hieronymus: *De Morbis Mulierbribus Praelectiones.* Venetius, apud F. Valgrisium, 1587, p. 148.

53. Merriman, Samuel: *A Synopsis of the Various Kinds of Difficult Parturition.* New Ed., London, John Churchill, 1838, p. 108.

54. Mettauer, John Peter: Stethoscope 2:8:1852., Am. J. M. Sc. 13:113, 1833. Boston M. & S. Journal, 9:229, 1833. Am. J. M. Sc. 13:314, 1847.

55. Morland, William W.: Boston M. & S. J. 59: 309, 336, 1858.

56. Moschion, cited by Goodell.

57. Munde, Paul F.: Cazeaux P. and Tarnier S.: *The Theory and Practice of Obstetrics.* The Eighth Am. Ed. with an appendix by Paul F. Munde. Phila., P. Blakiston, Son & Co., 1889, p. 1158.

58. Munde, Paul F.: Am. J. Obst., 22:673, 1889.

59. Nelaton: Journal of Medicine de Bordeaux, July, 1864, Ext. Boston M. & S. J. 55:66, 1857.

60. Noel & Sedillot, jeune: Rec. period, Soc. de Med. de Par. 7:187, 1800.
61. Pallen, Montrose, A.: New York Med. J. 23: 466, 1876.
62. Pare: *The Works of that Famous Chireurgeon Ambrose Parey*. Translated by Tho. Johnson, London, Mary Clark, 1678, p. 558.
63. Parker, Willard: Am. J. M. Sc. 29:274, 1855.
64. Paulus Aegineta: *Medici Insignis Opus Divinum*. Basle, Andr. Chatandrum et Jo. Bebelium, mense Martio, 1532, pp. 227 and 230.
65. Playfair, W. S.: *A Treatise on the Science and Practice of Midwifery*. 7th American Ed., Philadelphia, Lea Brothers & Co., 1898, p. 304.
66. Price, J.: Tr. Am. Assn. Obst. & Gynec. 4:113, 1892. Tr. South. Surg. & Gynec. Assn. 7:98, 1895.
67. Puzus, Nicolas: *Traite des Accouchemens*. Paris Desaint & Saillant, 1759 pp. 115, 125, 134.
68. Ramsbotham, Francis H.: *Principles and Practice of Obstetric Medicine and Surgery in Reference to the Process of Parturition*. First American Ed., Philadelphia, Lea & Blanchard, 1842, pp. 130, 196.
69. Read, William: Boston M. & S. J. 56:49, 1857.
70. Roux, Philibert Joseph: *Memoire sur la restauration du perinee chez la femme, dans les cas de division ou de rutpure complete de cette partie*. Cutting from Mem. Sav. etrang. Par., 1838, pp. 384-417.
71. Roux: Boston Med. & Surg. J. 10:405, 1834.
72. Royston, Grandison D.: Tr. Am. Assn. Obst. Gynec. & Abd. Surg. 42:53, 1929.
73. Rucker, M. Pierce: Va. M. Month. 57:238, 1930.
74. Schuh: Boston M. & S. J. 55:517, 1857.
75. Sellers, T. B. and Sanders, J. T.: New Orleans M. & S. J. 88, 755, 1936.
76. Simpson, Sir James Y.: *Selected Obstetrical and Gynecological Works*, Edinburgh, Adam and Charles Black, 1871, Vol. I, p. 65, Vol. III, p. 644, p. 650, p. 653.
77. Sims, J. Marion: *Silver Sutures in Surgery*, New York, Samuel S. & William Wood. 1858, p. 31.
78. Smellie, W.: *A Treatise on the Theory and Practice of Midwifery*. London, W. Strahan, T. Cadell, and G. Nicoll, 1779, Vol. III, p. 381.
79. Smith, Wm. Tyler: *A Course of Lectures on Obstetrics*. Ed. 2, New York, Robert M. DeWitt, 1858, p. 517.
80. Stander, Henricus, J.: Williams Obstetrics, 7th Ed., D. Appleton-Century Co., Inc., New York, 1936, p. 410.
81. Thomas, T. Gaillard: *A Practical Treatise on the Diseases of Women*. Ed. 5, Philadelphia, Henry C. Lea's Son and Co., 1880, p. 188.
82. Thoms, Herbert: *Classical Contributions to Obstetrics and Gynecology*. Charles C. Thomas, Springfield, Ill., 1935, p. 118.
83. Tracy, S. E.: Tr. Am. Assn. Obst. Gynec. & Abd. Surg., 48:274, 1935.
84. Trotula de Ruggieri: *de Mulierum Passionibus, ante, in, et post partum*, Leyden, 1572, p. 705.
85. Velpeau, Alf.: *Traite complete de l'art des Accouchemens*. Paris, J. B. Bailliere. 1855, Vol. 2, p. 637.
86. Werder, X. O.: Tr. Am. Assn. Obst. Gynec., 2:168, 1889.
87. Zweifel, Deutsche med. Wochenschr. 14:629, 1888.

THE INFLUENCE OF THE DUCTLESS GLANDS ON CHARACTER

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INFLUENCE—"is producing an effect without apparent force or authority."

Recent studies in medicine, biology, physics and chemistry reinforce the idea that the human body is a unified whole, and there must be coöperation and coördination of the different systems of the body, of the different organs constituting these systems, and of the different tissues and cells. This is secured in two ways: (1) by impulses from nerve cells or control by the nervous system; (2) by substances which circulate in the blood and effect control by influencing changes which are essential to the well-being of the body. The effect produced by these substances is often on an organ distant from the place of their origin, which is in glands. Life depends upon chemical changes; and if all chemical change ceases, life ceases. To live is to change.

A gland is a secreting organ, or an organ which abstracts certain materials from the blood and makes of them a new substance. The new substance may be intended for use in the body—secretion—or to be eliminated as waste from the body—excretion. All excretions are first secretions and with the exception of urine all excretions are made use of before they are eliminated.

All living cells including those found in glands have the power of withdrawing from the blood the material they need for their own metabolic activities, but secretion is the special function of glandular cells, it is their share of the work, and is carried on for the welfare of the whole body. The power of

secretory cells to perform their functions, takes from the blood or lymph the materials to make new substances dependent upon: (1) chemical factors, (2) such physical factors as osmosis, dialysis and the permeability of membranes, and (3) all the energy changes associated with metabolic activities within the cells. The secretory glands are of two types, one type provided with duct through which the secretion they produce is discharged, and a second type called ductless or endocrine glands, that possess no ducts. The secretion produced by the ductless glands is discharged into the blood, either directly or indirectly by way of the lymphatics. No matter what the size or shape may be, all glands have three essential characteristics: (1) epithelial cells which are the active secretion agents, (2) a liberal blood supply from which the material for the secretion is drawn, (3) they are under the direct control of the nervous system and secretion is their response to stimulation, just as contraction is the response of a muscle.

One of the most striking of the recent advances in physiology has been the recognition of a special type of gland which has no duct, but pours its secretion directly into the blood. This is a gland of internal secretion or endocrine organ. It secretes a substance into the blood which, unlike food, is not a source of energy but which has the specific function of passing in the blood stream to other organs and regulating their activity.

We are in body, mind and disposition to a great extent, what the endocrine secretions make us, utilizing hereditary influence, soil, water, food and atmospheric chemicals. These glands and their secretions are closely related to the two great nervous systems, the cerebrospinal and the great sympathetic, and we feel and think not only with these glands, but with every organ and tissue of the body. It is interesting to note that homologous secretions are found in plants.

It seems that nature reached a point in evolution when greater speed and accuracy was wanted and the necessity led to the establishment of this marvelous system of glands with their chemistry at the very basis of life, function and mind; for stability, strength, and power for the whole electrochemical machine. Man's life began millions of years ago in a very simple form, but his greater adaptability, or some subtle quality of this mysterious force we call life, running through all living things, enabled him to outstrip all other animals and to rise far higher in the scale of reason than any other. As development proceeded, organs evolved to meet the demands of exacting environmental conditions until a wonderfully specialized animal had resulted. Unquestionably his greatest aid in attaining the post of honor and domination in the animal kingdom was his superior endocrine system. The marvel of the scheme of creation grows upon us the deeper and the further we look into it. Man endowed with reason for the beginning, as witness the earliest traces of his handiwork, enriched with the power of adaptation, to the most varied and changing conditions of life, he has evolved through many phases both physical and moral to his present state, remaining withal what he was essentially from the beginning, monarch of the earth.

It is difficult to determine the order of involvement in the diagnosis of the endocrine disturbance, but this is necessary, since on it is based the method of treatment. The interrelations of the endocrine organs are not so simple as they may appear at first sight. The following points should be considered:

1. The effector organs.
2. The degree of the involvement of the different glands.
3. The quality of hormones that act mutually.
4. Their rhythm.
5. Their concentration.
6. Differentiation of action.

Method of Investigation: (a) Observation of condition caused by disease; (b) Experiments on animals; (c) Chemical examination of gland and of blood that leaves it.

Doubtless the body contains more ductless

glands than we yet understand, but here our attention must be confined to those of which we do know something—the thyroid, the parathyroids, the thymus, the suprarenals, the pituitary body, testes, ovaries, and the placenta during pregnancy. The right behavior of all these glands is essential to health. They add to the blood, as it passes through them in the ordinary way, traces of some constituent which is essential to the right working of other parts of the body. The understanding of their functions, in some degree, has added to the powers of medicine, and many a subnormal person has been made intelligent by dosage with the thyroid gland of the sheep, while "adrenalin", an extract of the suprarenal glands, and pituitary extract are also largely used in medicine today.

The doctrine of internal secretion is generally conceded to find its first expression in the writing of Bordeu, a physician at the court of Louis XV. True to the best tradition of Greek philosophy, Bordeu contented himself with the formulation of a series of sweeping generalizations which were entirely uncontrolled by any attempt at experimental proof. Current endocrine literature is still being enlarged, though scarcely enriched, by an uncritical acceptance of speculations based upon inference and analogy and uncomplicated by disturbing factual evidence.

Early in the last century, a group of keen and able clinical observers began to describe the syndromes which bear their respective names and to trace their several causes to the deranged functions of individual glandular structures. Physiological investigation of ductless glands also began nearly a century ago and still continues progressively, adding vastly to our store of objective facts and providing crucial experiments which test the validity of many productive theories.

More recently, biochemical studies have added vital links in the chain of evidence by the production of biologically active extracts which, seemingly through replacement, maintain normal levels after complete extirpation of the individual glands from which they are derived. In some cases, even, active chemical entities have been isolated, their constitution determined, and the compounds later synthesized in the laboratory, the artificial products duplicating individual biological reactions associated with the potent natural products from the glands of proven internal secretion.

With just recognition of the brilliant pioneer contributions and their fundamental importance the origin and development of current endocrine doctrine, none the less it seems fair to say that present day endocrinology, as an organized field of modern medicine, has just rounded out its third decade. Today, the glands of established internal secretory activity are generally recognized as among the most potent regulators of the body metabolism. In the function of which each is presumptively capable, they condition or influence the intrinsic characters as sex, growth, nutrition, and reproduction. Certain of them have been proven to be essential to life.

Curiosity is one of nature's contributions to all humanity. It is as characteristic of the senile man as of the developing child, and were we to live a thousand years instead of the proverbially alloted "three score and ten", it would be perfectly natural for each of us to be curious over something or other even to our dying moment. We are curious of this, that and the other reality—or fancied reality—and when our mind is finally set at rest by a logical explanation of some strange problem, our inquisitiveness immediately presents us with some new perplexity to be curious about. The starting point of the doctrine of internal secretions was Claude Bernard's work on the glycogenic functions (1857).

The secretion formed by an endocrine organ is a hormone (exciting agent). Hormones are chemical compounds of low molecular weight as compared with other organic products. Because of this they can easily penetrate the blood vessel wall and reach the living cells whose activity they influence. Furthermore, a hormone prepared from an

endocrine organ of one animal will have the same action when injected into the body of an animal of another species. Insulin, which is manufactured by certain groups of cells in the pancreas (islets of Langerhans), is required to enable the tissues of the body to utilize sugar which is the source of energy for muscular contraction or movement. If the hormone insulin is absent, diabetes results. In this disease other food substances, fats and proteins, are as a consequence incompletely utilized because they are less easily burned than sugar. The sugar which cannot be burned by the body appears in excess in the blood and is thrown away by the kidneys. When the stores of sugar in liver and muscles are gone the tissues themselves break down to yield sugar, which also appears in the urine, and the individual wastes away. This disease can be arrested by repeated injections of insulin. As soon as it is supplied artificially the tissues can once more use sugar as a source of energy and can store away the excess of this food as before. The diabetic therefore increases in weight and gains in strength as long as the treatment is continued.

Of first importance was the thyroid in ancient days, and so it is today. It was formerly a sex gland; but in the process of evolution, it moved up and up until it located in the neck, to preside over the very citadel of life, performing a number of functions. It is still closely associated with the sex organs, especially in women, as is shown by increased circulation and enlargement during menstruation and pregnancy. This gland presides over metabolism, aids the pancreas and liver in digestion; helps in the expulsion of body wastes; assists the suprarenal secretion in controlling the body temperature and blood pressure; energizes all the other glands of internal secretion in their various functions, and has the largest part in activating the brain. Upon thyroxin, the secretion of the thyroid gland, depends the complexion, the color of the hair, the normalcy of the nails. One of the most interesting things in racial study is the complexion map of Germany; very dark, with black hair in the southern part, glandually fading out and assuming the typical blonde type of the North Sea. The lack of iodine stimulus in the Alpine region and its great abundance on the northern border, explains this phenomenon.

The thyroid type of personality is marked by cordiality, vivacity, magnetism, action, achievement. This type of man or women is the goer, the doer in life, always alive and active when normal. In women beauty prevails. The nose is a strong characteristic, but well formed, and the features are well balanced. The thyroid character is the center of life in the group, intelligent and charming in manner.

If there is overaction or vitiated secretion, the temperature is up, the pulse is very rapid, all the powers and functions of life are racing, and the patient is extremely nervous. Insanity and crime sometimes occur in abnormal conditions of this vital gland. In underfunctioning all functions are low; the mind is dull; thought is impeded, sluggish, with frequent lapses; the patient has no energy or initiative and is incapable of intelligent action. Still further limitation of this secretion leads to cretinism or idiocy, a living death.

The physiologist does not wait for disease to perform his experiments for him. Consequently our knowledge of the action of the thyroid hormone has been increased through animal experimentation. For example, our most exact information concerning the effect of thyroxin on growth and development has been gained by removing the thyroid from young animals and comparing their growth with that of normal animals of the same age.

The reason for the profound influence of the thyroid gland on growth is quite simple. It accelerates the chemical changes occurring in living matter. When thyroxin is not poured into the blood stream by the thyroid the rate of the chemical changes in the tissues, metabolism is slower, and both growth and development are retarded in the young animal. The principal sign of deficient thyroid secretion is, then, lowered metabolism.

These masses of glandular tissue when enlarged cause the swelling of the neck referred to as a goiter. In certain regions, one of which borders the Great Lakes in America goiters are very common, and it is believed that this condition is associated with a lack of iodine in the water. The internal secretion of the thyroid gland, thyroxin, has recently been accurately analyzed and can now be prepared synthetically. It has been found that iodine is an essential element in its composition. Therefore, if not enough iodine is supplied, the thyroid gland enlarges in an effort to produce a normal amount of thyroxin from an inadequate supply of iodine. It is on the basis of these findings that iodine is now given to school children where there is prevalence of goiter.

In those parts of the world known as goiter regions a particularly repulsive type of dwarf, the cretin, is often seen. The cretin is an idiot, and its body is as undeveloped as its mind. The features are coarse and repulsive, the abdomen protrudes, and movements are feeble and awkward. Such individuals seldom survive beyond their thirtieth year. At death it is found that the thyroid is absent. It has either failed to develop, or has degenerated. If this condition of thyroid lack is recognized early in infancy the thyroid hormone can be supplied by regularly feeding the child a certain small amount of the dessicated gland. It will then develop in a normal manner. The thyroid hormone, as mentioned above, is the only one at present known which is not destroyed by the action of the digestive juices. If the gland ceases to work in late life, the result is a strange malady of nutrition, affecting the skin, the hair, the brain and other tissues, and called myxedema. Today thyroid extract is the invaluable and most miraculous remedy for cases of cretinism and myxedema alike.

The parathyroids are intimately connected with the thyroid. Parathyroid deficiency results in tetany, a condition characterized by marked neuromuscular overactivity.

The thymus has as its most important function the prevention of the evolution of the organs of sex until puberty, when it should atrophy and cease to function. It happens occasionally that it continues to function into adult life and the sexual organs cannot and do not develop. Childhood is carried forward into adult life in many other ways in addition to the matter of sex; velvety skin, milk white teeth, childlike mind. In the male the throat is full; the form is feminine and the character a strange mixture of child and adult, not infrequently homosexual and inclined to criminal tendencies.

The suprarenal type of man is a strong character, capable of great endurance. His skeletal and muscular systems are superb, and in some cases he is very hairy over the chest and back. His complexion is dark; his hair line is low; the face is broad, the nose large; his teeth are strong, flinty and yellowish. He is a fighter and enjoys it. He accomplishes great things by energy and aggressive force. Mentally the human creature lives upon this secretion in fighting all the battles of life. These are the glands of emergency and we call upon them constantly. When any circumstance of life calls for this secretion, whether it be in a car wreck or a fight it pours out instantaneously. This secretion assists the thyroid in activating the brain and in this day of powerful kinetic drive, these glands are under a strain all the time and sometimes they fail. The man is ill; his temperature is subnormal; his blood pressure is low; he is full of his own poisons; his hands and feet are cold; he is extremely nervous and despondent, and he suffers continually with varying pains that shift from place to place all over the body and the man, fearing the gravest disease, is in despair.

Suprarenal deficiency, whether clinical or experimental, results in a striking adynamia comparable to that of severe exhaustion. It is this secretion that fights disease by creating fever and raising the number of phagocytes, disease fighters. The secretion from the cortical portion is closely related to the sex organs and their functions and stimulates

general hairiness. Constant high pressure and worry in the struggling subnormal adrenal character may lead to insanity. The regulation of the body temperature, the blood pressure, the oxygenation of the blood are all under the control of the suprarenals. It also aids the pancreas and the liver in the digestion of carbohydrates and has other functions.

Cannon showed that in fear, rage, or anger, the emotions which prepare the animal for fight or flight, the digestive and sexual functions are immediately inhibited, the adrenal secretion is rapidly poured into the blood, mobilizing sugar from the hepatic glycogen up to the point of glycosuria, counteracting the effects of muscular fatigue, and hastening the coagulation time of the blood, thus giving the organism wonderful capacity for offense, flight, fright, and repair of injured tissues. A man in a fighting, fleeing, or frightened mood is a ductless gland phenomenon.

Another gland of internal secretion affecting growth is the pituitary. This is a small mass of tissue (in man about the size of a hazel nut) suspended from the under side of the brain by a short stalk. It lies just below the crossing of the optic nerves as they enter the brain. It is really two glands in one. There is an anterior lobe which secrets a hormone affecting growth, and a posterior lobe whose internal secretion has numerous effects—such as stimulating the formation of urine, the flow of milk, and the contraction of the uterus. Because of this last effect, the posterior lobe hormone, pituitrin is injected to hasten childbirth.

The removal of the posterior lobe of the pituitary is not fatal, but if the fore part of the gland (the anterior lobe) is extirpated death always results. Now it has been found that if most of the lobe is removed from a young animal, growth is retarded and the animal remains a dwarf. If, on the other hand, an extract of the tissue of the anterior lobe of the pituitary is injected at regular intervals into a normal growing animal, it will continue to increase in size and become a giant. Now it is known that most human giants have an enlarged pituitary, and their great size is, therefore, due to an over supply of the growth promoting hormone of the anterior lobe of this organ. The chemical composition of the internal secretion of the anterior lobe is not known, except that it must be quite different from thyroxin. Much continuous pressure may cause gigantism, in youth the disease called acromegaly, in adults enormous growth of the long with ill health. Deficiency of this secretion leads to dwarfism.

With the posterior part it is different. This is the center of sensation and emotion, of love, and of the creative in art, all that is fine and beautiful. But it is also the site of jealousy, envy, hatred, and other killing emotions. In normal conditions, all is peace, and all the riches of the emotional life, unhampered imagination, creative genius, the enjoyment of love and of friends, all that makes life worth while are prominent. But in the abnormal dwells unshapely adiposity and ugliness and a fertile soil for insanity of the emotions originates in the posterior portion of this gland.

The pituitary character is a man of splendid physique; the masterful looking man. And indeed he is so, for the anterior secretion has much to do with the proper development of the mechanism of the mind, the intellectual, not the emotional side. The high class pituitary type is the thinker, inventor, philosopher; a man who is aggressive, who thinks in large terms, who achieves great things in life if he is favored with a well-balanced endocrine system. He is the entertainer, the story teller, the center of attraction in any circle. If, unfortunately, the pituitary body is cramped and squeezed by an abnormal sella turcica, which can now be determined by x-ray, anything may happen. Such a boy cannot measure and interpret his environment, and most likely will deceive, lie, steal, develop into a schemer, a swindler, a check artist. All his life, unless relief comes, he will be a sufferer with head-

ache, an ill and uncertain citizen, often in conflict with the laws of society.

It is known that the reproductive glands agree with many of those which we have already described in that, though not "ductless glands", they yet produce an internal secretion—as, for instance, the pancreas does. This internal secretion is vital for proper development in both sexes, and is responsible for the appearance of what Darwin called the "secondary sexual characteristics", such as the form of the body in woman, the growth of the beard and deepening of the voice in man.

The function of the testes is the production of spermatozoa, and an internal secretion which influences the development of the secondary sex characteristic of the male. The reason for this belief is that if the testes are removed before puberty, the body remains undeveloped, the enlargement of the larynx does not occur, there is no growth of hair on the face, and the features are infantile. The testes, because of the elaboration of an internal secretion, influence responsive tissues in such a manner as to further and maintain differentiation of a great number of factors which enter into the composition of masculinity. In castration the picture varies, depending upon the age at the castration which may be surgical or inflammatory. When this occurs at or before puberty an effeminate personality develops, the voice fails to change, there is a tendency to female body configuration, and a failure of the secondary sex characteristics to develop.

The ovaries—two of the female organs of generation, produce ova or cells from which new beings may develop and in addition produce two internal secretions. Apparently one secretion is formed by cells in the body of the ovary, and the other by cells known as the curpus luteum. It is believed that these secretions (1) stimulate the development of sexual characteristics including menstruation, and (2) aid metabolism. The subjects of ovarian deficiency have been characterized as showing "hyperemotionalism and self-pity, united with an attitude of acid criticism of environmental conditions that are always unsatisfactory."

The internal secretions from both the testicles and ovaries play a leading rôle in governing the actions of men and women. When properly functioning they stimulate the individual to the finer and better things of life. No eunuch ever accomplished any great thing in science, art, music or literature. If this secretion is much limited or is vitiated, the mind may be deranged and the horrible crimes or sex and murder, and all kinds of fanciful, strange, mutilations are common. The greatest work confronting the medical profession is to investigate jails and asylums and single out the adult criminals and insane persons whose diseases are located in the endocrine system, and make an earnest effort to cure them by organotherapy. If there is anything greater it is to study the child, recognize morbid, mental and criminal tendencies and correct them and prevent disease of this kind in all its horror. The normal and abnormal chemistry of the human creature is the most romantic, the most practical, the most vitally interesting and fascinating subject in all the broad field of human knowledge.

The placenta which develops during pregnancy secretes a hormone that checks the secretion of milk until after its expulsion at the time of birth. Many observers believe that the hormones in the circulating blood of pregnant women at full term are responsible for the onset of labor.

A man makes two bequests when he passes away. He bequeaths to his children some of his physical and mental characteristics, but his high achievements—his mechanical inventions, and his moral, artistic, and intellectual conquests—he leaves to mankind. Man differs from all animals in that his instincts are not rigidly defined, and the instinctive part of his nature becomes smaller as he grows up. The more a creature is destined to learn in its lifetime, the less rigidly defined it must be at birth in the matter of instincts and special powers. What we inherit is a capacity to

learn, and not, like the animals, a capacity to perform. It is the plasticity of our instincts which gives us such an adaptable nature.

The powers of each individual are augmented by every improvement in socialization. The richness of his social heritage is extended; the amount of contemporary knowledge at his disposal is made greater, and his personal influence is widened and deepened. His inventions may revolutionize the life of the community; his discoveries may add vastly to its resources; his literary work or scientific writing may set the aspirations of a nation and mark an era in the history of mankind.

"Character is the sum of qualities or features by which a person or thing is distinguished from others. What a person is himself. That which is injured by yielding to temptation and wrong doing, and by slander and libel. Character is the engraving made upon the soul, mind, habits, and heredity of human beings, by their efforts and moral struggles." Character is the product of daily, hourly actions, words and thoughts. It is unselfishness, kindness, sympathy, charity, and sacrifice for the good of others. It is a struggle against temptation and bowing to failure. The great hope of society is individual character. Goethe said, "Character is not built in solitude but in the broad stream of the world." Humboldt wrote, "Only what we have wrought into our character during life can we take away with us." Character can not be taken from a man. It outlives the court, the hangman and the prejudices of the hour. Once built it remains.

Character study yields certain elements that are vital forces:

1. Will power—to choose.
2. Imagination—to see ahead.
3. Usefulness—to make life worth while.
4. Integrity—without which there is no fullness.
5. Temperance — that guarantees prolonged usefulness.
6. Courage—which carries the individual through to the end.
7. Tolerance — that recognizes the rights of others and earns their respect.

Character rests on two pedestals: heredity and environment. Of the first, the individual has no choice or selection. Of the second, he is influenced and shapened, though at times he may exercise a controlling supremacy over some actions of his life. Occasionally a man may truthfully say,

"I am the captain of my soul,
I am the master of my fate."

EXPERIMENTATION ON ANIMALS

Animal experimentation is undeniably a service to man. As a service, man can ethically and morally demand it from the animal world in spite of the fact that animal lives are necessarily lost or destroyed as a result of exacting that service. "Be Kind to What Animals?" written by the Rev. Victor Heinen, a regularly ordained Catholic priest and teacher, first appeared in the *Morning Star*, a periodical published by the students of Conception College, Conception, Mo. It is reprinted in the March *Hygeia*.

This right is founded on the position in nature, by which man has domination over animals lower than himself. Man stands at the peak of nature. Man is, therefore, the highest and has both the natural domination and ethical rights over the animal kingdom—as long as he does not infringe on the rights of another man or act in violation of his own reason.

Since man has the recognized right to own animals as chattel, consequently the owner, man, has a right to demand the services of his animal. He demands work from the horse, milk from cattle, the eggs and meat of poultry, as services arising from the right of ownership. If these services are justifiable, then any other rational service that is for the good of man is also within the rights of man.

Rights carry with them duties. The higher animals prey on the lower by instinct, but man must use the life of all animals below him according to reason. The duty of man to the animal kingdom then is precisely to avoid unnecessary cruelty—or better, just plain cruelty.

RENAL DISORDERS IN GENERAL PRACTICE*

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THE occurrence of renal diseases in general practice is probably as frequent a one as appendicitis or the ordinary cold. While the conditions are not labeled as such, careful observation and examination usually lead to a clue. The absence of some of the important symptoms that are associated with renal diseases does not necessarily indicate that a renal disorder is not present.

The conditions that are to be discussed today are so numerous and important that we will not include in this discussion the various types of medical nephritides, such as chronic diffuse nephritis, acute and chronic glomerular nephritis, the kidney that is associated with anteriosclerosis and the various nephritides that are associated with the poisons.

For purposes of better discussion the renal disorders to be considered should be divided into the congenital and acquired groups.

These in turn could again be considered under the headings as to whether the etiological factor causing the disturbance is extrarenal or intrarenal and still further whether the primary cause is a distant or a nearby focus. These factors could again be subdivided as to whether the condition is due to an infection or obstruction or both.

Most congenital renal conditions usually undergo some pathological changes in the course of time, giving rise to symptoms and signs. There is no question that many a renal lesion had its incipiency in early life but was only recognized when adult life was reached and then more radical measures were necessary. A definite relationship exists between anomalous conditions of the urinary tract and those of the genital tract. The congenital conditions giving rise to symptoms in most instances are the anomalies such as:

1. The supernumerary or absent kidney.
2. The changes in the form of a kidney such as horseshoe kidney, etc.
3. The changes that take place in a kidney that never reached its proper position such as a congenital ectopic kidney.
4. The changes that take place in kidneys due to a congenital abnormality of its structure such as polycystic kidneys, atrophic and hypoplastic kidneys.
5. The changes that take place in kidneys that are disturbed because of congenital anomalous renal vessels.

In the consideration of the acquired renal disorders that are encountered, it is necessary to consider the following:

1. Renal calculi.
2. Renal infections.
   (a) Pyelitis and pyelonephritis.
   (b) Pyonephrosis.
   (c) Tuberculous infections.
3. Hydronephrosis.
4. Renal tumors.
5. Renal ptosis.
6. Renal injuries.
7. Nephralgias.
8. Perirenal infections.
9. Vesical neck obstructions.

It should be definitely understood that age and sex matters little as to renal disorders encountered. The same type of pathology in the kidney is found in infants and children as is found in the adult. The same holds true for occurrences of renal disorders in both sexes. There is probably some differences in the frequency of some lesions that are found in early life and those which may be found in adult life but a similar picture is to be emphasized in the comparison of lesions in both sexes and all ages.

Symptomatology: Symptomatology whether in the young or old, the male or the female, is the same. The exception is that in the infant or young child the complaints may

*From the Department of Genitourinary Surgery, Sinai Hospital, read at the Annual Clinic of The Golden Clinic, Elkins, W. Va., July 16, 1936.

not be as significant or may not be made known as in the adult.

The symptoms may be discussed in general for all the renal diseases, as they are similar whether the occurrence is in a child or adult, male or female. They may be discussed under the following heads:

1. Pain.
2. Urinary symptoms.
3. Gastrointestinal symptoms.
4. Cardiorespiratory symptoms.
5. Neurological symptoms.

The symptoms in the congenital conditions only make their appearance when a pathological process develops in the congenital anomalous condition and then it is placed in the same category as the renal disorders without the anomalous condition.

Pain: Pain for the most part in all renal disorders is in either the lumbar or abdominal regions, yet it has been observed to be in regions other than these. The absence of pain in these two localities does not exclude a renal condition. The pain that is produced is either caused by the distention of the renal pelvis with urine, (either infected or not) due to some form of obstruction such as a stricture, stone, tumor or kink, the mobility of a calculus or blood clot, the mobility of a kidney or to irritation of the nerves of the renal plexus.

The pain may be constant or intermittent, sharp or dull, radiating or non-radiating. When the pain is radiating it radiates to the abdomen, genitalia, or thigh. Obstructive lesions causing distention of the renal pelvis or the movement of foreign bodies such as calculi or blood clots frequently produce very sharp pains that in most instances cannot be relieved unless a hypodermic of narcotic is given.

Destructive processes such as are found in infections of a kidney or due to neoplasm usually produce dull aches that are not constant. Large renal calculi that occupy most of the pelvis or all of a calyx usually produce the dull achy type of pain because there is little chance for them to move about.

Urinary Symptoms: Next to pain, urinary symptoms are the most important presentable symptoms in renal disorders. Frequently the urinary symptoms are present before the symptom of pain. It is for this reason that in the examination of patients, regardless of the type of illness, frequent urinary examinations should be made. In the female this examination should always include a catheterized specimen.

The presence of urinary symptoms associated with renal disorders are not as pronounced until the bladder becomes secondarily involved. In the presence of a stone or tumor in a kidney, hematuria is the principal urinary symptom. In these conditions as well as other renal disorders, no other urinary symptoms are present until infection takes place and then due to the deposition of the infected urine into the bladder, the urinary symptoms, such as urinary frequency, burning and sometimes marked urgency become more pronounced. The examination of the urine which will be discussed later is more important than the presentable urinary symptoms.

Gastrointestinal Symptoms: Any disturbance to the renal or the gastric plexus of nerves such as may be produced by infections in the kidney or the mobility of a kidney will cause gastric upsets such as nausea, vomiting and sometimes loss in weight. Any disturbance of the peritoneum by the mobility of a kidney or by perirenal or cortical infections in the kidney which approximates the peritoneum will likewise produce symptoms of nausea and vomiting. In cases of obstructions in the renal pelvis, absorption of infected products or absorption of urea products causes disturbances to the gastrointestinal tract.

In many instances of renal infection, renal ptosis, hydronephrosis and other renal disorders the initial symptoms are nausea and vomiting.

Cardiorespiratory Symptoms: It has been our observation for some time that individuals exposed to cold and wet have been the recipients of renal infections and it is not anything unusual to have patients suffering with cases of bronchitis, pleurisy, pneumonia, etc., to present on careful examination, signs

of renal disturbances. Particularly true is this in cases of pyelitis and pyelonephritis. Furthermore it is interesting to note that in many instances we have been able to demonstrate a tuberculous lesion in a kidney which only ushered itself in with a cough or chills and fever and after careful study, a renal tuberculosis was discovered.

Neurological Symptoms: In most instances these symptoms come on late and are due to the long suffering the individual has undergone, producing sufficient symptoms to cause them to be nervous, restless and unable to sleep.

Examination: In the examination of the patient, examinations along the following lines should be carried out:

1. Abdominal and lumbar.
2. Urine examination.
3. Functional tests.
4. Röentographic examinations (plain and intravenous).
5. Cystoscopy and retrograde pyelography and stereoscopy.
6. Rectal examinations.

In the examination of the patient, careful observation is made relative to points of tenderness in the lumbar or abdominal regions particularly in cases of calculi, tumors and infections of the kidney.

Negative findings are not indicative of no renal disorders. The patient should always be examined both in the recumbent and erect postures because ptosed kidneys of the acquired type replace themselves in the recumbent position and are not definitely palpable until the patient is in the erect position. Palpable masses in the abdomen or back should always arouse suspicion of either a large or ptosed kidney, a renal tumor or extrarenal mass.

Probably one of the most important parts of the examination is that of the urine. Positive demonstration of pus, blood, organisms or albumin is usually indicative of some renal disease, but again it must be particularly emphasized that many cases of renal calculi, stones, renal ptosis, uninfected hydronephrosis and anomalous conditions of the kidney reveal no pathological elements in the urine. Particularly is this true in the condition of congenital polycystic renal disease. This renal lesion is mostly devoid of pathological urinary elements unless a kidney becomes infected. The specific gravity of the urine is of particular importance in this renal disorder. In repeated examinations of the urine if the specific gravity ranges between 1.001 and 1.015 congenital polycystic kidney should be suspected.

In the microscopic examination of the urine, red blood cells is a very common finding in all renal disorders, more profuse in some conditions than others and yet its absence is not indicative that a renal disorder is not present. Many cases of renal tumor, polycystic kidneys, hydronephrosis, stones, etc., never presented any red blood cells in the urine, while in others the first presenting symptom and sign was hematuria.

The presence of pus cells in the urine is likewise a very significant finding but at no time should its absence mean the absence of a renal lesion. Cortical abscesses, perinephritic abscesses and many times intermittent pyelitis and pyelonephritis never present any pus in the urine. The diagnosis is usually made by other findings. Most of the congenital renal disorders never present a pyuria until late.

It is possible for a renal lesion of any type to be present in the absence of pathological elements in the urine. It is advisable that the sediment of centrifugalized specimens of urine should be stained with the ordinary methylene blue dyes. This is important because firstly, the question of pus will be decided and secondly the type of organisms, if present, will be decided upon. Pus in the urine without any demonstrable organisms as stained by the ordinary methylene blue dyes is significant of either a gonorrheal or tuberculous infection. With this in mind many a specimen of urine if examined will be found to arouse suspicion and should then be examined for tuberculous bacilli.

The presence of staphylococci in the stained specimen of urine even in the absence of pus is very significant of cortical or perirenal infections.

The examination is never complete until functional tests have been made, especially the phenolsulphonphthalein and the blood chemistry tests. Real significant differences may only be noticed in these tests if the disorders are either bilateral or very advanced cases, yet findings within normal limits will at least reveal that one kidney is in a good functional state.

The examination of the patient suspected of a renal disorder is never complete without a röentographic examination of the kidney. This should first be performed as a plain plate. A negative report only rules out radiable shadows. Non-radiable calculi, tumors, polycystic kidneys, infections in the kidney and anomalous condition of the kidney are a few of the conditions that are not observed on the plain plate. Intravenous injections of opaque solution should be made to outline the renal pelves, calyces, and ureters. If the outline is not satisfactory by this method then a retrograde examination should be made with the use of the cystoscope. Should this be resorted to, which after all is the most satisfactory method, then the urine can be collected separately from each kidney, separate phthaleins from each kidney collected and injections into each kidney can be performed to determine the renal capacity as well as to inject an opaque solution directly into the kidney and obtain a more satisfactory outline of the urinary tract.

In the cystoscopic examinations one should observe whether an enlarged prostate or a diverticulum is present as either one of these conditions might give a bilateral infection in the kidneys.

Diagnosis: After a careful history has been taken of the patient regardless of the condition present, a clue is usually obtained as to the exact nature of the ailment. With this clue in mind a complete urological examination can be made to determine the presence or absence of any renal disorder. All these examinations, as mentioned, are simple tests and can be performed by the average practitioner with the exception of possibly cystoscopy.

Interpretation of findings are particularly important, therefore, it is essential to train oneself to interpret the findings properly.

With a careful history and complete examination as mentioned, together with proper interpretation of findings, will first permit of a proper conclusion being reached as to the presence or absence of a renal lesion.

While most renal disorders may present similar points in the history and in some instances in the preliminary examinations, they all present different pictures when a cystoscopic and pyelographic examination is made.

Differential Diagnosis: Differential diagnosis is of extreme interest in renal disorders. All upper urinary tract lesions should receive the same survey of their case. The final analysis is made after the examination is complete. For the most part the differential diagnosis depends on the examination of the separate urines, both fresh and stained, phthaleins and pyelograms that are obtained.

It is quite possible that two different disorders in the kidney give a similar pyelographic picture but in most instances a final decision can be made after this study.

Treatment: When the final decision is made as to the diagnosis then the proper procedure is usually decided upon. In many instances open surgery is not necessary immediately, while in others it is the most conservative step.

In many instances palliative measures can be carried out to a point of obtaining relief if possible without surgery and if this fails then open surgery should be resorted to. Dilatation of a ureter to permit the passage of a stone or lavage a renal pelvis frequently clears an infection of a kidney. This same dilatation takes care of any stricture or urinary stones that may be present.

Removal of an obstruction in the ureter, bladder, or urethra will eliminate many kidney disorders. Removing distant foci of infection will likewise clear up many renal disorders.

Among the distant foci of infection to be investigated are skin infections, infections in the teeth, tonsils, sinuses, prostate and rectum.

In the present day surgery of the kidney it is of utmost importance to preserve the organ wherever possible, taking into consideration the possibility of a similar lesion occurring in its mate. This is frequently cared for by only removing a portion of a kidney where possible.

The surgeon is dependent upon the condition present as to the procedure to be carried out. In many instances real radical surgery on the kidney can be considered the most conservative ruling.

Nephrectomy is necessary in the following conditions:

1. Renal tuberculosis.
2. Renal tumors.
3. Calculous pyonephrosis.
4. Calculus of kidney that has lost its function.
5. Infections of kidney if unilateral and there is a good function on the other side. This is only to be carried out after every means has been exhausted to clear up the infection.
6. Unilateral pyonephrotic polycystic degeneration. Other operative procedures that usually care for renal disorders that do not respond to the ordinary treatments are nephrotomy, pyelotomy, nephropexy, pyeloplasty, partial resections, incision and drainage, decapsulation, puncturing cysts, etc.

Some of the more advanced ideas in the handling of renal disorders are:

1. Attempts made at the dissolution of renal calculi by injections of phosphoric acid, indulgence in ketogenic and high vitamin A diet. All these methods have been unsatisfactory in our hands.
2. The application of high vitamin A diet in the prevention of further formation of urinary calculi. In our hands it is questionable whether it has actually prevented any further formation of calculi in the kidney.
3. The application of ketogenic diet in renal infections. In a selected type of case this has proved beneficial only in some cases.
4. The elimination of any possible parathyroid disease in cases of urinary calculi. According to reports this is an important step forward only in certain cases.
5. Partial resection of kidneys for stones or localized infections of the kidney. This has proved very successful for us.
6. The establishment of a temporary nephrocutaneous non-urinary fistulous tract in polycystic degeneration of a kidney. This is of extreme value and has helped in some of our cases.
7. The complete removal of a unilateral pyonephrotic polycystic degeneration of the kidney. This is also very beneficial in selected cases.
8. The employment of deep x-ray therapy prior to the nephrectomy in the so-called hypernephroma. This is of some assistance in the reduction in the size of the tumor before operation.
9. The removal of both kidney and ureter on the side of disease in cases of tuberculosis and intrapelvic neoplasm. This is of extreme importance, otherwise in tuberculosis, a tuberculous ureter is left behind and in malignancy a similar condition will develop in the ureter.
10. Releasing obstructions at the ureteropelvic juncture when these are present as in some cases of hydronephrosis. This procedure is of extreme value.
11. Performing plastic repairs on kidneys that are deserving, rather than sacrifice a kidney. This is helpful only in some cases.
12. Immobilizing certain kidneys that have become ptotic but never in the presence of infection. A procedure of extreme value only in selected cases.
13. Performing heminephrectomies on double kidneys if pathology is present in only one of the fused kidneys. This is a marked advance in present day surgery, rather than removing a double kidney where pathology is only confined to one of the double kidneys.
14. Practicing conservatism in injured kidneys.
15. Performing renal sympathectomies on the so-called nephralgias where no demonstrable pathology is demonstrated. This procedure in our hands has given excellent results if the cases are carefully selected.

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THE PROBLEM OF HEADACHE

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HEADACHE as a symptom is almost as common as the symptom pain among the complaints appearing each day in the physician's practice. Its frequency and familiarity has, in many instances, bred contempt in the doctor who, when he finds it is the only symptom, suggests a mild analgesic and dismisses the patient. Two obvious facts make this a poor habit: (1) The patient with a headache is a real sufferer who loses efficiency in his work and misses much happiness that might be derived from a normal, healthy life. He deserves all available scientific help with his malady, even though he has not an interesting life-threatening or life-shortening ailment to command the physician's attention. (2) Occasionally, the headache is of serious import (life-shortening or life-threatening) and the physician who too easily disregards the symptom may find later, to his chagrin, a very serious nephritis, a brain tumor, or an apoplectic stroke that takes the life of his patient.

Usually there is more than one factor operating in the production of headache. To list the diseases and disorders which conceivably may cause headache would be to write the subheads of a rather complete medical encyclopedia. Some progress in the understanding of headache has been made by directing attention to the physiological mechanisms involved in its production.

Long ago it was observed by surgeons that brain tissue was insensitive. Tugging at or injuring the meningeal coverings, on the contrary, did cause pain. Until recently, it was thought that little or no vasomotor mechanism existed for blood vessels of the brain. Most experimental work indicated that these vessels passively followed the changes in systemic pressure occasioned by constriction or dilatation in other vascular beds of the body. In 1928, Forbes and Wolff[1] found not only that a sudden and marked change of systemic arterial pressure did cause the expected passive changes in the cerebral vessels, but also that stimulation of the cervical sympathetic nerves or direct application of epinephrin to cerebral vessels caused their constriction. And, as might be expected, vagal stimulation resulted in dilatation of the same vessels. Penfield (quoted by Tilney)[2] and Levine and Wolff[3] demonstrated the presence of nerve fibers in the blood vessels which traverse the brain. That at least some of these are afferent, especially fibers about the pial vessels, is indicated by the finding that unipolar faradic stimulation gives galvanic skin responses. It has been observed, further, that stimulation of the pial vessels (but not of the brain surface or meninges between the blood vessels) results in reflex augmentation of respiration in anesthetized dogs.

Pharmacologists have shown that headache can develop from diametrically opposite changes in cerebral circulation.[4] Vascular constriction or vascular dilatation (using adrenalin or histamine) may initiate headache. Apparently, the suddenness of the change is the significant factor. Pickering (quoted by Goodman)[4] suggests that mechanical disturbances in the wall of the dural vessels (unequal pressure within and without the vessel) producing an edema in the perivascular area, leads to the stimulation of afferent pain fibers and the sensation of headache. Thus our attention has become centered more upon the change in cerebral blood vessel walls than upon tension of the meninges per se.

As we contemplate the susceptibility of the

vasomotor system to an endless variety of afferent impulses in the human body, we see the disadvantages in a categorical classification of remote causes of headache. However, to orient himself in the problem of headaches in general practice, a working classification is necessary. One such scheme is as follows:

I. Diseases of the Brain and its Coverings (including skull and scalp): In this group are tumors, abscesses, sinus thromboses, meningitis, encephalitis, tuberculosis, syphilis, vascular disease, hemorrhage, bone cysts, lumbar puncture and trauma.

II. Diseases of Structures Adjacent to the Brain: The more common members of this group are affections of the eyes, sinuses, teeth, nose and the neuralgias.

III. Disorders of the General Circulation: Paroxysmal hypertension and polycythemia may be the only observed cause of headache.

IV. Psychoneuroses: Infrequently in neurasthenias, exhaustion states and in minor psychic disturbances, headaches occur which are controlled only by directing therapy toward the underlying psychoneurosis. The sufferers usually present other stigmata of a poor constitutional type.

V. Infections and Toxic Disturbances: Such headaches may occur in the prodrome and early course of smallpox, scarlet fever, poliomyelitis, influenza, pneumonia, the common cold and other frequently encountered infections. Such toxic disturbances as result from poisoning by lead, alcohol, caffeine, morphine, ether, chloroform, hydrogen sulphide, carbon monoxide, tobacco, and metabolic disorders as exemplified by advanced nephritis may be placed in this group.

That hypersensitization to certain substances may initiate headache is becoming more evident. The response of the vasomotor system to tobacco has been well demonstrated. Regularly, the blood pressure rises during smoking, possibly due to some substance in the tobacco itself and not to the content of the smoke.[5] Some individuals respond with greater vasoconstriction of blood vessels of the skin than do others. Lambert[5] estimates that tobacco sensitiveness exists to a demonstrable degree in ten to twenty per cent of the populace. That blood vessels are the point of predilection in this sensitiveness is well shown in the case of thromboangiitis obliterans. If cerebral arteries respond likewise in certain sensitized individuals, the occurrence of headache is to be expected from tobacco.

That constipation is associated with a variety of headache is well fixed in the minds of laymen and many physicians. Does constipation produce the headache by allowing greater absorption of the end products of digestion, products to which the sufferer is particularly sensitive? It cannot be proven at present. Possibly the constipation is part of a functional neurogenic disturbance and is, along with the headache, the product or end result of a common cause. The latter explanation seems more acceptable.

VI. The Migraine Symptom Complex: The vast majority of headache sufferers present a syndrome which may be placed in this class. In the first century of the Christian era, Aretaeus of Cappadocia wrote a description of the disease he called "hemicrania", suggesting the unilateral character which may or may not be observed in these patients.[7] Synonyms are sick headaches, megrims, bilious headache or biliousness, cephalgia biliosa and emigrania.

Migraine causes, in the aggregate, a degree of suffering to mankind equaled by but few other diseases. It has been the object of philosophical speculation, scientific observation and therapeutic heartbreaking for physicians of every age since Aretaeus. Just what migraine is, no one knows. We do know much of its manifestations and amelioration. Its importance justifies our constant consideration.

Typical migraine is one of the most clear cut symptom complexes in medicine. Usually there should be no difficulty in diagnosis if it is kept in mind and careful history taking is done. It may be identified as a paroxysmal regularly or irregularly recurring symptom

complex, usually giving headache as the predominant symptom, nausea and visual disturbances. Characteristically, the disorder starts early in life and leads to no demonstrable impairment of the general health in the person affected. Migraine may appear in bizarre and protean forms. The headache may not be present at all, in which instance other symptoms are spoken of as migraine equivalents.

As to incidence, the affection appears in seventy per cent of instances in the first two decades of life. Both sexes are affected. Originally, it was thought that women were affected more frequently than men but careful questioning has elucidated an almost equal incidence in men.[7] Figures on general incidence of migraine vary in different series from twenty per cent to sixty per cent of the general population, apparently being found, or recognized, more frequently in recent years.

There is a marked hereditary tendency in migraine. Liveing (1873) found migraine in 50 per cent of family histories. Henchen (1881) found it in 64 per cent of his histories while Moebius (1894) and Auerbach (1912) found it in 90 and 99 per cent, respectively. Casual inquiry in 50 migrainous patients under my observation revealed a family history of migraine in 45 instances. A great deal of controversy exists on the matter of whether the hereditary tendency with migraine follows the Mendelian law as a dominant or a recessive character. The evidence probably is a little better for the view that it behaves as a dominant character.[8]

It has been thought that migraine occurs more frequently in families showing epilepsy, psychoneuroses and psychoses. In so far as epilepsy is concerned, there has been found "only a small percentage of cases of epilepsy in the ancestors of migraine patients but a large proportion of migraine in the ancestors of epileptic patients."[6] The statistics pertinent to the question are far from conclusive.

Many observers are impressed by the frequency of migraine in the "white collar" or professional classes. This may be due to the frequency with which the professional class seeks the physician for relief. Mental and nervous activity surely increases the frequency of attacks in a given individual but Allan,[9] in 400 migrainous patients as compared with 1000 non-migrainous patients, finds equal distribution between laboring and professional classes.

In the many theories advanced to explain migraine a certain few factors having to do with the manifestations of the ailment are to be kept in mind.

(1) A predisposing lability of the autonomic nervous system is present. The migraine sufferer may show attacks of vertigo, transient numbness, aphasia, paroxysmal tachycardia, a readiness to perspire under strain, dermographia, or functional bowel disturbances. We have already referred to the evidence of the rôle of the sympathetic nerves accompanying cerebral blood vessels in the mechanism of headache.

(2) A relationship to sexual function exists. Migraine in women is apt to occur near the menstrual period, often is absent during pregnancy, and, in both sexes, is more severe during the age of greater sexual function. Characteristically, but not constantly, it subsides in later life.

(3) An association between well known allergic reactions and the migraine syndrome is apparent. Kennedy[10] suggests that the allergic factor must be the most important element in producing a headache and that the migraine syndrome is caused by "a localized allergic edema implicating painfully the meninges, especially their foldings and angled reflexions" about the vessels and brain substance. The readiness with which an allergic individual may respond with increased capillary permeability is shown by the frequent occurrence of the urticarial wheal in daily practice. It is likely that ingested substances (as is observed not infrequently with the derivatives of cocoa) may likewise precipitate an allergic response in the form of a headache.[11] Skin tests with foods have been dis-

appointing but the chemical changes in digestion, the selection of the shock organ, and other factors undoubtedly play a part. More information should be had on the relationship of food allergy to migraine before we can utilize adequately the control of diet in the amelioration of the disorder.

(4) In some way the emotional states have to do with the frequency of migraine paroxysms in an individual. An unpleasant mood or psychic disturbance increases the aptitude for migraine. A senior medical student had the frequency of his attacks doubled under a lecturer he disliked. When the course was finished the headaches appeared less frequently. Fatigue, worry, alcohol, tobacco, malnutrition appear to increase the frequency of migraine paroxysms in a susceptible individual.

The symptom complex of migraine in a typical example is initiated with a dull, depressed sensation accompanied by yawning, often by sneezing, a degree of irritability and a feeling of being unwell which informs the patient, by virtue of his past experience, that a headache is to appear. These headaches appear more often in early morning, though the attack may start any time during the twenty-four hours. Frequently there are visual scotomata of dancing specks, zigzagging streaks of light, blurring, a shimmering of the entire visual field, or fortification spectra with bizarre colors. Some patients observe no particular visual phenomena and a few others have a hemianopia or even blindness in a fulminating attack leading to a severe ophthalmic migraine.

When the headache appears, it is a definite hemicrania in only fifteen or twenty per cent of the cases. The vertex, occiput, frontal region or entire head may be involved. There is no characteristic location or type of discomfort. Many patients say that it defies description. It may be a dull fullness, a feeling of lead weight, or as if the cranium were stuffed with sawdust. In some patients it is a bursting or throbbing sensation. Almost regularly it is found that the patient experiences momentarily augmented discomfort when intracranial blood pressure is increased by bending over, sneezing, coughing or even by a slight change of position.

Attacks may develop rapidly without prodromes or aura. In some patients vomiting occurs; in others, there is nausea but no vomiting. Excess salivation is common. The patient's brow is pale and moist at the height of an attack. Paresthesias, numbness of lips, fingers or parts of extremities are frequent. The victim may have psychic disturbances of confusion, mental lassitude, or hallucinations. Under the class of migraine equivalents appear giddiness, vertigo, speech disturbances, intestinal colic or diarrhea.

The attacks vary in severity. In mild attacks, the patient may remain ambulatory and continue the day's work. The duration of an attack is, on an average, from six to twenty hours. In summer the attacks in a given individual usually are less severe than in winter.

The therapeutics of migraine, while often discouraging and somewhat empirical as yet, will give satisfying results when the patient can give complete coöperation. Any physical ills such as undernutrition, hypothyroidism, carious teeth, sinus infections, and refractive errors must be treated. These should be corrected, not that they are primary factors in the patient's migraine but as a matter of hygiene and aid in achieving a better state of health. In taking a history of the migraine patient, exceeding care should be used to learn his exact sleeping, eating, smoking, drinking, working and recreation habits. Inquiry should be made about his living environment, his associations and his mental reactions to this. There is nothing new about such a study, but to consider the patient as a whole is too often not practiced.

The physician should explain to the patient the nature of the latter's headaches, briefly dwelling on the points of mistaken physiology so frequently found in his mind. He should be told that his headaches will be present most of his life, in all probability,

but that much can be done about relieving their frequency and severity. He should be shown how to live with himself. He cannot spend his energies at play or work as lavishly as his associates may be able to do and feel well. Alcohol in any form is apt to exact a headache subsequently as its tribute. It is preferred that a patient with severe migraine retire at least five nights each week by ten o'clock and that he average nine hours sleep out of each twenty-four.

His life should be so ordered that he take not too seriously any business or personal problems. He can work and live with a degree of nonchalance, a sense of humor in his daily contacts, and yet not be negligent about his affairs. Mental discipline and an optimistic philosophy will prove to be worth any price to the migraine patient.

Those in sedentary occupations should be out of doors periodically. Light exercise, such as golfing with friends or walking fast enough to increase the depth of diaphragmatic excursions, is usually beneficial.

The multiplicity of remedies attests the need for specific therapy in migraine. The power of suggestion and the magic of change are probably the best elements in much of our therapy. Sleep is highly effective in granting immediate relief, and a simple sedative may be adequate to achieve this. I doubt the advisability of using laxative drugs or cholagogues, though as late as 1933 Hunt[12] advocated the use of bile salts.

Where the paroxysms are frequent, elimination diets may be used to probe the possibility of a food idiosyncrasy. Bassoe[6] found a number of patients to be relieved by receiving intravenous injections of sodium thiosulphate. Ligation of the middle meningeal artery and subtemporal decompression has relieved migraine but too few observations have been made to warrant great dependence upon these radical procedures. The most recently advocated drug therapy is the use of ergotamine tartrate in one or two milligram doses by mouth, or one-half to one milligram doses by hypodermic injection. Ergotamine therapy is based on the idea that migraine is due to vasoconstriction of intracranial vessels. The drug paralyzes the endings of the sympathetic fibers, giving a fall in blood pressure. Pool and Nason[13] found that ergotamine tartrate gave inconstant effects on cerebral vessels of cats under amytal anesthesia. There resulted constriction, dilatation and no change, in equal frequency. Occasionally, histamine causes a severe headache and yet more often it fails to give relief. It does give relief sufficiently often to justify a trial with it.

In conclusion, it should be repeated that the migraine sufferer deserves to know something of the nature of his disorder. I find too many such patients have visited physician after physician and have never been told the basis for their recurring malaise. Many fears may be quieted and incipient psychoneuroses avoided if they are given an insight into their disorder. They are saved the incessant visiting of different physicians and in many instances saved needless surgery in the abdomen or about the nose and throat.

BIBLIOGRAPHY

1. Forbes, H. S. and Wolff, H. G.: *Cerebral Circulation. III. The Vasomotor Control of Cerebral Vessels.* Arch. Neurol. & Psychiat., 19: 1057-1086, 1928.

2. Tilney, Frederick: *Etiological Considerations of Headache.* Bull. New York Acad. Med., 11: 500-510.

3. Levine, M. & Wolff, H. G.: *Cerebral Circulation. Afferent Impulses from the Blood Vessels of the Pia.* Arch. Neurol. & Psychiat., 28: 140-150, 1932.

4. Goodman, Louis: *Headache, Neurophysiological and Pharmacological Considerations.* Internat. Clin., 2: 78-98, June, 1935.

5. Lambert, Alexander: *Headache from Tobacco, Drugs, etc.* Bull. New York Acad. Med., 11: 495-499.

6. Bassoe, Peter: *Migraine.* J. A. M. A., 101: 599-605, Aug. 19, 1933.

7. Allan, William: *The Sex Ratio in Migraine.* Arch. Neurol. & Psychiat., 27: 1436-1440. June, 1932.

8. Allan, William: *The Inheritance of Migraine.* Arch. Int. Med., 42: 590-599, Oct., 1928.

9. Allan, William: *The Relation of Occupation to Migraine.* J. Nerv. & Ment. Dis., 66: 131-132, Aug., 1927.

10. Kennedy, Foster: *Headache; Drugs and Other Methods of Treatment.* Bull. New York Acad. Med., 11: 511-514.

11. Balyeat, R. M. & Rinkel, Herbert J.: *Further Studies in Allergic Migraine.* Ann. Int. Med., 5: 713-728, Dec., 1931.

12. Hunt, T. C.: *Bilious Migraine, Its Treatment with Bile Salts Preparation.* Lancet, 2: 279, Aug. 5, 1933.

13. Pool, J. L. & Nason, A. G.: *Cerebral Circulation; Comparative Effect of Ergotamine Tartrate on Arteries in Pia, Dura and Skin of Cats.* Arch. Neurol. & Psychiat., 33: 276-282, Feb., 1935.

MASSIVE EDEMA OF THE VULVA

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ONLY an occasional case of massive edema of the vulva during pregnancy is found in the English literature. No case report has appeared in the past several years. This case is reported because of the unusual amount and rapidity of swelling.

Report of Case: H. V. T., aged 21 years, white, illegitimate primipara presented herself on August 2, 1936, at the Ohio Valley Hospital Dispensary with the chief complaint of "rapid and immense swelling of the parts." The menstrual history was very indefinite, calculating from the perception of fetal movements, the estimated duration of pregnancy was approximately eight months. There was the massive edema of the vulva shown in the accompanying photograph. She was immediately admitted to the hospital.

History and physical findings were as follows: The pregnancy had been apparently normal with no untoward signs or symptoms, except slight edema of feet, ankles and lower legs, until the day preceding admission when the patient noticed for the first time that the vulva were enlarged. Prenatal examinations had not been performed.

The patient lying quietly in bed, appeared pale and poorly nourished, and complained of irregular abdominal pains. The mouth showed multiple dental caries, decayed roots, severe pyorrhea and tonsils that were large cryptic and exuded pus. Thyroid one plus palpable. No adenopathy. Heart, regular, not enlarged and showed a loud systolic murmur. Lungs negative. Abdomen, gravid uterus, McDonald measurement of 32 cm. and two distinct fetal heart beats recorded. The uterus was contracting at irregular intervals with the presenting part floating over the inlet of the pelvis. The amniotic fluid was not excessive. The vulva were as shown, very tense and pitted deeply on pressure. No inflammatory signs were present. There was a grade one pitting edema of the feet and ankles.

Blood pressure 148/112. Urine, heavy cloud of albumen, moderate reduction of sugar and an occasional granular cast. Blood, hemoglobin 60 per cent, R. B. C. 2,350,000, W. B. C. 4,100, marked anisocytosis, poikelocytosis and polychromatophilia being present. Normal weight, 85 pounds; present weight, 98 pounds.

FIG. 1. Acute Massive Edema of the Vulva, Anterior View.

Hot magnesium sulphate compresses were applied to the vulva during the day with a continued increase of the edema. The uterine contractions also became regular and of good quality, so at 1:00 a. m. the next day a low cervical caesarean section was performed, delivering living twins that weighed three

pounds six ounces and four pounds, respectively. One crucial incision was made in the dependent portion of each labium majus. Fluid drained freely from these so that within one hour the vulva had decreased approximately one-third in size. The mother was returned to the ward in fair condition.

The postoperative course was uneventful. On the following day the blood pressure rose to 160/110 and then gradually returned to normal. The urine was normal by the fifth day. The vulva, after the first rapid decrease in size, continued to decrease gradually and the labiae were normal on the eleventh day. Patient was discharged from the hospital on the twelfth postoperative day. The babies were retained in the hospital another two weeks and were then discharged under protest, weighing four pounds, eight ounces and four pounds, fifteen ounces, respectively.

FIG. 2. Acute Massive Edema of the Vulva, Lateral View.

Comment: This individual had twins with average amount of amniotic fluid, a severe anemia and a pre-eclamptic toxemia. The anemia was treated with large doses of iron. She was not transfused, because relatives or charity blood donors could not be located. There was some question that this condition could possibly be due to an extravasation of urine. However, examination of the collected fluid ruled out this possibility quite conclusively.

Small edemas of the vulva during pregnancy, especially when associated with varicose veins, are very common, but because of the size and the rapidity of onset this case is reported.

Central Union Bldg.

ARTHRITIS BOWS TO THERAPY

"Everything from fallen arches to acid fruits, bad teeth and a poor colon has been accused of causing arthritis, and much energy has been dissipated in seeking the 'bug' responsible for this disease," Dr. Richard Kovács declares in his article "Physical Treatment of Arthritis" appearing in the March *Hygeia.*

Intensive study in recent years by competent physicians all over the world has gone far toward clearing up this problem. While the term "arthritis" is used principally to indicate inflammatory changes in one or more joints in the body, medical men have learned to regard it as a disease of the entire organism.

The discovery of a variety of causes is somewhat responsible for this conception. Correspondingly, for the various forms of arthritis there are a number of possible courses of treatment. In order to treat arthritis effectively, experienced physicians make use of all known treatment measures which overcome the causes and act directly on the diseased parts.

Drugs, vaccines, physical treatment, diet and general hygiene all play an important part in treatment. The outlook for successful results is much brighter than it was a few years ago. The best chance for a cure exists when the first hint of the disease appears, such as aching or pain in the neck, or a stiffness, pain or swelling in or near one or more joints.

The physical treatment of chronic arthritis includes heat, massage, sunlight, exercise and rest, which may be collectively described as "natural" or "physical" forces. They may serve to stimulate the defensive power of the body through speeding up the general circulation and causing chemical changes in the blood.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

Osler's Principles and Practice of Medicine: "A last word on the subject of tuberculosis to the general practitioner: The leadership of the battle against this scourge is in your hands. Much has been done, much remains to do. By early diagnosis and prompt, systematic treatment of individual cases, by the prompt recognition of contact cases, by striving in every possible way to improve the social condition of the poor, by joining actively in the work of the local and national anti-tuberculosis societies you can help in the most important and the most hopeful campaign ever undertaken by the profession."

The Early Diagnosis Campaign: For ten consecutive years the tuberculosis associations of the United States have been conducting in the month of April an annual publicity campaign for the early diagnosis of tuberculosis. Dr. Edward L. Trudeau, the pioneer of the fight against tuberculosis in the United States, went on record at the first meeting of the National Tuberculosis Association on May 18, 1905, as follows:

"The first and greatest need in the prevention of tuberculosis is education; education of the people, and through them education of the state. It is evident that if every man and woman in the United States were familiar with the main facts relating to the manner in which tuberculosis is communicated and the simple measures necessary for their protection, not only might we reasonably expect as a direct result of this knowledge, a great diminution in the death rate of the disease, but the people would soon demand and easily obtain effective legislation for its prevention and control.

"When a state has once become well educated, and not before, will the other requisites necessary to the control of the disease be forthcoming."

This fundamental principle is as valid today as it was 32 years ago. The tuberculosis associations of the country appreciate the cooperation and leadership which the medical profession has always offered. Again the farsighted physician is urged to lend his help to this year's campaign.

The theme of the 1937 E. D. C. (Early Diagnosis Campaign) is "Uncover Tuberculosis with Modern Methods." For the campaign three leaflets have been produced.

The first leaflet called "Signals" deals with early symptoms of tuberculosis and the importance of consulting the doctor on their first appearance. It is a discouraging fact that in the last ten years no appreciable increase has occurred in the proportion of "early cases" admitted to sanatoria. This is in spite of years of earnest educational efforts urging people to obtain medical advice on the appearance of the earliest symptoms which are enumerated in the pamphlet. One of the explanations offered is that some of the early symptoms are not sufficiently severe to prompt people to action. In fact they are often so subtle as to be overlooked even by the doctor. Surveys of large numbers of sanatorium patients have shown that fatigue is often the first and only warning signal. Another danger sign which is just as often overlooked or disregarded by the patient is a group of symptoms which we commonly call indigestion. A cough that hangs on, loss of weight, blood spitting, pleuritic pain, are more likely to cause a man or woman to visit the family doctor. The physician's greatest part in the fight against tuberculosis is his willingness to investigate these danger signs at once, bearing in mind that often it is impossible to exclude tuberculosis without an x-ray of the chest. The files of tuberculosis sanatoria are filled with case histories showing that cases were diagnosed far too late. Not only is syphilis, as Osler says, a great imitator but tuberculosis also imitates the symptoms of many other diseases.

The second booklet "It Can Happen" deals with the tuberculin test and is addressed to high school groups.

The third booklet "In Every Home" deals with the age-old story of contacts.

It is abundantly recognized that the reason for failure to find early cases cannot result entirely from the apathy of patients nor from lack of vigilance on the part of the doctor. Sanatorium men recognize the fact that more and more cases appear where the transition from the "early" or "silent" stage of tuberculosis to the moderately advanced or far advanced is relatively swift and only by the barest chance is the minimal case detected if the fluoroscope or the x-ray is not used as a standard aid in diagnostic practice.

PRESIDENT'S PAGE

During the last several years the medical profession had to stand a lot of adverse criticism. There has been much unfavorable publicity in daily papers, magazines, and from lecture platforms about the high cost of medical care. Reports from personal investigations and statements by unofficial or self-appointed committees created quite a commotion for some time, and the population, already upset by the sufferings from the general economic depression, were led to believe that the medical care the average citizen receives is inadequate and that the price he pays for it is too high. As a panacea for all these ills compulsory health insurance was demanded.

Addressing medical men, I do not need to emphasize the fallacies of most of these statements. These so-called "fact-finding committees" and critics did not take into consideration the complexity of modern medicine. They were demanding modern medical service with all its technical refinements necessitating higher costs and were willing to pay for it the prices of the horse-and-buggy age. They demanded the comfort, safety, and speed of transportation on a modern air-conditioned Pullman train and were willing to pay for only the cost of transportation in a covered wagon.

Medicine has progressed. It has changed very much for the better in conformity with the progress of our whole civilization. Our standards of living have improved, but unfortunately the cost of living has increased also. Everybody is proud of the former and takes the latter as a necessary evil. A quart of pasteurized Grade A milk costs today about fifteen cents, whereas years ago a quart of plain milk from the farmer cost only a fraction of this price; but everybody knows that our milk today is safe and is glad to pay the higher price. Yet this same person howls if a doctor charges him an adequate fee after he has made a careful examination, involving many expensive laboratory procedures followed by scientifically sound advice and treatment, instead of handing him a "shotgun" prescription after a casual conversation.

I do not doubt that the public realizes the accomplishments of modern medicine—eradication and curbing of infectious diseases, decreased infant mortality, the marvels of modern surgery, the possibility of diagnosing a pathological process so much earlier with so much better chance for a cure, but curiously enough the public does not realize that to do all these things involves money. Can you charge a worker for the cost of a job? Everybody will agree that the man who orders the job or is benefited by it has to pay for it. Should the physician's account be charged with the laboratory or x-ray expenses, with the cost of better and more efficient instruments? It seems to me it would be only fair if these expenses are charged to the one who is benefited by their use—the patient.

Looking over medicine during the centuries, there is only one thing which has remained unchanged. While medical education, medical knowledge and technique, and hospital facilities have tremendously progressed, the devotion of the physician to the task of serving humanity has remained unimpeachably the same. Like his forebears he sets out rain or shine, day or night, following the call of those who are in distress. He enters the rich man's mansion and the hut of the poor. The help he brings, his services are the same for both. The idea of monetary reward is secondary in his mind. He is not a business man who has something to sell. He is a missionary who follows his calling and is at everybody's service whether the patient can afford to pay or not. Even if there are mercenarily inclined minds among the members of our profession, they are fortunately an exception rather than a rule, and it should be only fair not to blame the profession as a whole for the shortcomings of some of its members.

The physician's character and morale are the product of a long evolutionary chain reaching back to the time of Hippocrates, the words of whose oath are a crystallization of the highest standard of professional morals. Time, tradition, and education have fused the physicians together into one big brotherhood united in one effort—service to their fellow men.

President

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THE LEGISLATURE

The chief accomplishment of the 1937 legislature, so far as the medical profession is concerned, was the passage of the compulsory vaccination bill which will require smallpox vaccination and diphtheria immunization as a prerequisite for entrance to the public schools of West Virginia. This legislation, which has been advocated for several years, will provide a splendid weapon with which to fight and control these two highly contagious diseases.

The compulsory immunization bill was endorsed by our Association, sponsored by the State Health Department, and adroitly handled in the legislature by Dr. George P. Evans of Iaeger, a member of the House from McDowell county. It was largely through the efforts of Dr. Evans that the bill was maneuvered through the intricate maze of legislative bills that piled up in the two houses during the closing days of the session. To Dr. Evans, and to the State Health Department, we offer our hearty congratulations.

The Basic Science bill sponsored by the Association failed of passage. It met with vigorous opposition from the osteopathic and chiropractic leaders who were apparently afraid to permit their graduates to take an impartial examination from an impartial board. The idea of basic science legislation, which is new to West Virginia, won over many friends in both the House and Senate and it is felt that a similar bill will have every chance to succeed if presented again by the Association two years hence.

Other measures affecting or interesting the medical profession were as follows:

House Bill 384, relating to Workmen's Compensation provides that whenever a claimant is ordered to appear for examination before a compensation medical examiner, both the claimant and his employer shall have the right to select their own physicians to participate in such examination and, if not concurring in the report of the examiner, each may file separate reports which shall be considered by the commissioner in passing upon the claim. The bill also provides that claimants shall be provided with reasonable traveling expenses when reporting for examinations in other cities.

Senate Bill 119 provides for the registration of nurses and prohibits the improper use of the initials "R. N." Nurses registered in other states will not be allowed to practice nursing in West Virginia without being registered in this state.

Senate Bill 120 raises the requirement of pupil nurses in training from "at least one year of high school education," to "at least *four* years of high school education."

The budget bill provides $3,600,000 to the Department of Public Assistance for general relief, adult physical rehabilitation and other related welfare work. The item of $25,000 formerly appropriated for annual emergency hospitalization was omitted and will be provided in more general terms by the Public Assistance Department. We are pleased to report that the budget of the State Department of Health was raised $30,000 per annum over the 1935 allowance.

House Bill 445, relating to the Department of Public Assistance, redefines "general relief" and the following clause of the for-

mer definition has been stricken out, "A person financially able to maintain himself under ordinary circumstances, but unable to provide necessary medical or surgical care or treatment shall be eligible to general relief." With this clause removed, one of the most troublesome features of the welfare law has been eliminated. It will still be possible in certain circumstances for such persons to secure necessary medical care, but the elimination of the specific clause removes the "borderline" cases which have been causing most of the difficulty.

House Bill 119 failed of passage. This is the measure that was designed to give groups of industrial employees the authority to employ and discharge the "company" doctor. Although several groups were interested in this bill, it had no organized support.

Both Pinecrest Sanitarium at Beckley and Denmar Sanitarium at Denmar received grants for building purposes. The budget carried an item of $220,000 for a hospital building at Pinecrest and $146,850 for a colored tuberculosis sanitarium at Denmar. Both of these amounts are contingent upon a federal grant to defray forty-five per cent of the total cost of the two buildings.

EARLY DIAGNOSIS CAMPAIGN

To make diagnoses is the doctor's job. But to prompt the man in the street to seek medical guidance, to lead him to a clinic, to persuade him to permit his child to be tested and x-rayed, is the peculiar task of the tuberculosis associations.

In the daily routine public health and social workers and physicians have for years been dealing mostly with individual known cases and those closely associated with them. Nearly all of the known cases on diagnosis are found to have badly damaged lungs requiring long and tedious treatment. Their number has increased so greatly that sanatorium facilities are constantly inadequate to care for them.

Gradually these conditions have led to the discovery of modern methods for the early detection of tuberculosis, namely, the tuberculin skin test, the x-ray and health education. The problem has been to find the methods of reaching the general public with this information and cause millions of men, women and children to realize that the annual harvest of tuberculosis disease and death is due to infection usually during childhood through close association not only with known active cases but also with thousands of unknown active cases who have not yet become sick enough to seek a physician for treatment.

For over thirty years the organized tuberculosis movement has followed the principle laid down by Dr. Edward Livingston Trudeau that "Education of the people and through them of the state is the first and greatest need in the prevention of tuberculosis." During that time tons of literature have been distributed and thousands of persons have volunteered their services to organize cities and counties and to help raise money to establish sanatoria, provide clinics and other projects intended for the education of the public. For the past ten years intensive campaigns have been launched on April first to bring attention in spectacular ways to interest people in the proposition that tuberculosis can actually be prevented.

During these thirty years, Dr. Esmond R. Long, president of the National Tuberculosis Association, says "We have all the knowledge for the early discovery of tuberculosis. It is now high time we ceased to find the cases for the first time after they are far advanced. Only wide education will help." So the process of education is being continued in the 1937 Early Diagnosis Campaign which emphasizes that Tuberculosis Can Be Uncovered By Modern Methods. The campaign will be promoted by the distribution of three pamphlets and the display of posters, radio talks, magazine and newspaper publicity,

speakers at all kinds of meetings and the use of motion pictures.

The State Tuberculosis Association has a motion picture projector for showing sound films. It would like to have an opportunity to show the picture "Behind the Shadows" to the members of every county medical society and to other organizations. The film is a technically correct picture of the modern methods for finding and treating tuberculosis. Correspondence is invited. Physicians may have on request the latest literature on tuberculosis through the state association.

Tuberculosis can be completely wiped out in West Virginia with the cooperation, guidance and leadership of the medical profession.

G. C. R.

CHILD HEALTH ACTIVITIES

This year the Children's Bureau will sponsor May Day—Child Health activities for the nation at the request of the State and Provincial Health Authorities of North America. The State Health Department will sponsor the activities in West Virginia and Miss Dorothea Campbell has been named State May Day chairman.

The purpose of the observance is to promote the extension of year-round child health services in every community, including services for physically handicapped children. The slogan for this year is "Health Protection for Every Child."

The State Health Department, in cooperation with schools and various organizations throughout the state, will devote the entire month of May to a study of the work now being done and the need for increased activities in the field of child hygiene. Packets of material for study groups and programs for public meetings will be sent free on request.

Special emphasis will be laid on the importance of an early physical examination for every "beginner", so that defects may be discovered and corrected before school opens in the fall.

This fall the new law making successful vaccination against smallpox and immunization against diphtheria a prerequisite for entrance into school will be enforced in West Virginia for the first time. The value of these two safeguards will be emphasized in every program.

It is believed that such child health observances serve to promote greater interest in safeguarding the health of the children in the various counties throughout the nation by securing more adequate health services on a year-round basis. They also serve as a climax for the year's health program and stimulate greater interest in health in the individual child.

PUBLIC ASSISTANCE

It now appears that a number of changes will be made in the medical service plan of the Department of Public Assistance. The experience of the past few months indicates that there will not be sufficient funds in the department account to carry on the general relief program to July first and some revision will probably be made in all relief expenditures. These will no doubt be considered at the April 5 meeting of the State Advisory Board.

From the best information we can get, it appears that in spite of the proposed revision, the mileage rate allowed physicians making house calls will be increased from five cents per mile to 10 cents per mile (each way) on hard surfaced roads and to 15 cents per mile (each way) on dirt roads.

Maximum surgical allowances will, we believe, be limited to the present discretionary allowance of $25 per case. A plan to prorate surgical fees from a medical budgetary allowance, after other medical and hospital bills had been paid, was at first considered but this plan was discarded because of the administrative difficulties such a plan would present. Also it was felt by the Association's Advisory Committee that the application of the discretionary fee would, at least at the present time, be more equitable and satisfactory to the surgeons than the uncertain prorating plan.

TWENTY-FIVE YEARS AGO

(Taken from the W. Va. Medical Journal for May, 1912)

WEBSTER SPRINGS MEETING

The annual meeting this year comes early, because it is to be at one of our popular resorts. Webster Springs is located in a lovely spot, and to get there one passes through some of the finest mountain scenery to be found in this beautiful mountain state. Many of the members who were at our first meeting at Webster Springs a few years ago will testify that it was socially altogether the most delightful gathering of physicians we have ever held. Practically all of those in attendance were under one roof, and thus were afforded many opportunities for social intercourse, and these were enjoyed to the fullest extent.

We would like here to give emphatic expression to our view that the banquet should always be fixed for the evening of Friday. It is a fitting ending to our three days' session, during which it is possible that the feelings of some sensitive souls may be ruffled. The banquet serves to smooth the troubled spirits and send us all home with kindness in our hearts for every one. * * * There are bonds of sympathy between members of our profession rarely seen among men in other callings, and our annual meetings certainly tend to strengthen these bonds. The closer we come together the fewer faults are heard of among the brethren. With slight modification we may quote a hymn recently very popular in this community: "Oh, how you love them when you know them!" At a distance, too often men are painted quite black, and gross injustice is often thus done. "Propinquity begets affection", is an old saying and generally a true one. The closer doctors are packed together the less evil they find in each other. Let us then, if for no better reason, turn out in force at Webster Springs, that we may get better acquainted, that we may make many new acquaintances, and that we may give a big stimulus to those who are plodding, too often alone, along the trying journey of a physician's life. Thus may we gain sympathy, help, guidance, learn some of our own faults, some of the goodness of our fellows, and return to our arduous duties refreshed and strengthened for further work.

S. L. J.

OBITUARIES

DR. O. L. PERRY

Dr. O. L. Perry, 75, Randolph county physician and one of the most prominent members of the medical profession in the state died February 22, 1937 in Elkins.

Dr. Perry was born October 6, 1861 at French Creek, W. Va. He attended the old French Creek Academy and was graduated at the University of Maryland Medical College in June 1891. He first practiced his profession in Belington, later moving to Junior and then Elkins where he has since resided. He was a former city health officer in Elkins and has been school examiner for a number of years. He was an honorary member of the Barbour-Randolph-Tucker Medical Society, and a member of the American Medical Association. Besides his wife, Dr. Perry is survived by two sons, one a doctor in Chicago, and five daughters.

DR. W. W. KOINER

The demise of Dr. W. W. Koiner of Beckley, West Virginia, occurred February 22, 1937, after a weeks' illness of pneumonia. He was well known as a physician and horticulturist throughout Raleigh county.

Dr. Koiner was born at Waynesboro, Va., March 30, 1879. He attended a public school and military academy, took his undergraduate college work at the University of Virginia and followed it with his medical degree at the College of Physicians and Surgeons at Baltimore in 1905. Dr. Koiner did graduate work at the Johns Hopkins University in Baltimore and George Washington University at St. Louis, specializing in children's diseases prior to 1930.

Dr. Koiner was a member of the Raleigh County Medical Society; West Virginia State Medical Association; American Medical Association; Major in the Medical Reserve Corps; Past-Commander of the Raleigh County American Legion Post; member of Beckley Masonic Lodge, Mount Hope Commandery, Knight Templar and Beni-Kedem Temple, Charleston. He was a staff physician at the Beckley and Oak Hill hospitals.

The remains were interred in Sunset Memorial Park at Beckley.

COUNTY SOCIETY NEWS

BROOKE COUNTY

The regular meeting of the Brooke County Medical Society was held at the home of Dr. W. L. Simpson, Wellsburg, on the evening of March 10, 1937. A very interesting paper was given by Dr. Leo Huth, Follansbee, on a new method of administering hyocine in the treatment of Parkinson's disease. Considerable discussion followed this presentation and Dr. Huth was urged to prepare his paper and case histories for publication in the WEST VIRGINIA MEDICAL JOURNAL.

W. T. BOOHER, *Secretary.*

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard on March 11, 1937, with a good attendance. Dr. I. M. Hinnant of the Cleveland Clinic, Cleveland, Ohio, was the guest speaker. His subject was "Problems Related to Nasal Allergy," which brought forth a liberal and interesting discussion.

CHAUNCEY B. WRIGHT, *Secretary.*

EASTERN PANHANDLE

The Eastern Panhandle Medical Society held its regular March meeting at Charles Town with Dr. W. A. Wallace, Martinsburg, as the speaker. His subject was "The Business Side of a Doctor's Office," which was very interesting and entertaining.

The president, Dr. E. H. Bitner, appointed Dr. A. B. Eagle, Dr. W. A. Wallace and Dr. G. J. E. Sponseller to compose the society's legislative committee.

MARVIN H. PORTERFIELD, *Secretary.*

HARRISON COUNTY

The regular meeting of the Harrison County Medical Society was held on Thursday evening, March 4, at the Stonewall Jackson Hotel. Dr. Lester Hollander of the Skin and Cancer Foundation, Pittsburgh, was the guest speaker and gave a very interesting discussion on "The Common Skin Disturbances From the Standpoint of the General Practitioner." His talk was illustrated with lantern slides.

Dr. George J. Kastlin, also of Pittsburgh, presented a colored motion picture on "The Clinical Features of Glandular Diseases of the Neck." A number of guest physicians from adjoining counties were in attendance.

JAMES G. RALSTON, *Secretary.*

KANAWHA COUNTY

The regular monthly meeting of the Kanawha Medical Society was held at the Daniel Boone Hotel, Charleston, on Tuesday evening, March 9, with a good attendance. The president's oration was delivered by Dr. Hugh B. Robins on "Syphilis and its Social Problem." Dr. J. C. Mathews, Huntington, was also on the program and gave a paper on "The Treatment of Gonorrhea in the Male." Both of these timely and interesting papers were liberally discussed by the members in attendance.

The society accepted with much regret the resignation of President Dr. Robins who has taken a position with the Kellog Foundation in Michigan. During the business session the society voted an assessment of six dollars per member with which to increase the working funds of the treasury.

CLAUDE B. SMITH, *Secretary.*

LOGAN COUNTY

The Logan County Medical Society held its regular meeting on March 10 at the Aracoma Hotel, Logan. Dr. W. W. Point, Charleston, gave a very interesting talk on "The Complications of Pregnancy." Dr. A. E. Amick, chairman of the Association's Infant Welfare Committee, read a very instructive paper on "Child Health and Social Security." Both of these excellent papers were much appreciated by the members.

At this meeting Dr. J. Lester Patterson of Holden was elected secretary-treasurer to fill out the unexpired term of Dr. T. F. Farley who has gone to New Orleans to take up an eye, ear, nose and throat service. Also Dr. Leslie Holmes Layman of Holden was elected to membership.

J. LESTER PATTERSON, *Secretary.*

MARSHALL COUNTY

The Marshall County Medical Society held its regular meeting on the afternoon of March 9 at the Elks Club in Moundsville with Dr. W. C. Boggs, Cameron, president, presiding. The feature was a talk by Dr. William A. Quimby, Wheeling, on "Prevention and Treatment of Cancer." This interesting subject brought forth many questions and much discussion.

J. A. STRIEBICH, *Secretary*.

MERCER COUNTY

The Mercer County Medical Society met in the Appalachian rooms in Bluefield on the evening of February 18 with only a fair attendance. The scientific program consisted of four moving picture films on "Mechanism of Heart Valves," "Treatment of Meningitis," and "Treatment of Birth Injuries and their Orthopedic Care."

During the business session there was considerable discussion of the plan of medical participation in the Public Assistance program and the society authorized the appointment of a special committee to set up a workable plan for Mercer county.

Refreshments were served following the meeting.

The March 18 meeting of the society was held in the Memorial Building, Princeton, at which time Dr. Ellis S. Pollock, McComas; Dr. C. H. Goodykoontz, Bluefield and Dr. R. C. Bunts, Bluefield, were elected to membership.

Dr. Harry Steele gave a resume of the recent visit of a number of West Virginia obstetricians to the Baltimore clinics. Operations were observed at the Mt. Sinai Hospital, including hysterectomies, appendectomies and cholecystectomies. A brief discussion of heart disease and its relationship to pregnancy was given at the morning session. The afternoon was devoted to lectures at the University of Maryland, where maternity deaths were the chief topic. In the case of each death of a mother, the entire staff gets together and reviews all records so as to properly evaluate the cause. A few cases of abdominal pregnancy were discussed. Drainage at the site of the placenta is practiced in this clinic. Labor analgesics were discussed. Paraldehyde seemed to be the most popular drug, its proportions being elixir of paraldehyde and water, equal parts. There was a short discussion of the indications for abortion, followed by a lecture on "Endocrinology" by Dr. Emil Novak.

Operations were observed on the second day. It was brought out in a lecture that amniotion is very popular in the treatment of gonorrheal vaginitis in girls. During the afternoon of the second day a face delivery was observed and there was discussion of unusual tumors in the pelvis.

The morning of the third day was spent at Johns Hopkins. A number of perineal and cervical repairs were observed, along with dilatation and curettage. In the afternoon, genitourinary lectures were heard. Recurrent abortions and preventable eclampsia were discussed. A moving picture was shown, giving conclusive evidence that there is uterine breathing in the amniotic sac.

Dr. Connell gave a paper on "Early Diagnosis of Empyema in Children." He pointed out that any pneumonia may be followed by empyema, and in cases where the temperature does not come down by lysis and the leucocytic count remains unchanged, one might take this as the first indication of empyema. He stressed particularly that physical signs in a child's chest may be very confusing, and that it is almost necessary to follow these daily, as they may change over night.

The meeting adjourned at 10:30 o'clock, following which the members were very elaborately entertained by Dr. J. R. Vermillion.

O. G. KING, *Secretary*.

MONONGALIA COUNTY

Dr. D. M. Post and Dr. C. T. Thompson, both of Morgantown, were the speakers at the regular March meeting of the Monongalia County Medical Society which was held at the Hotel Morgan, Morgantown, on the evening of March 2. The scientific program was preceded by a dinner at six o'clock.

Dr. Post spoke on "Arsenical Dermatitis" and Dr. Thompson on "Strangulated Hernia in Infancy." Both papers were well prepared and of much interest to the members in attendance.

Plans are now being made for the tri-county meeting with Harrison and Marion counties to be held in Morgantown this spring.

A special committee is now working out the arrangements and a speaker of national reputation will be on the program.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

A resolution endorsing the Ohio County venereal disease program of the city-county health unit was adopted by the Ohio County Medical Society at its meeting on February 19.

The ninth scientific session was held at the Ohio Valley General Hospital on February 5 at which time Dr. Russell C. Bond delivered the annual Jacob Schwinn lecture. His subject was "The Thymus Gland." Dr. Bond's paper showed extremely careful preparation and was enthusiastically received. It was discussed by Dr. Quimby, Dr. Lukins, Dr. McClure and Dr. Howard Phillips.

Dr. Paul Titus of Pittsburgh was the guest speaker at the March 5 meeting of the society. His subject was "Human Sterility," which was discussed by Dr. H. B. Copeland, Dr. Robert J. Reed, Jr., and Dr. Carl Bickel.

At the March 19 meeting of the society, the guest speaker was Dr. Alexander Randall, Professor of Genitourinary Surgery at the University of Pennsylvania. His subject was "Silent Renal Pathology," and discussion was opened by Dr. A. L. Jones, Dr. R. D. Gill and Dr. W. C. McCuskey.

W. M. SHEPPE, *Secretary*.

PARKERSBURG ACADEMY

A special meeting of the Academy of Medicine of Parkersburg, designated as the "President's Dinner" was held at the Ramble Inn on the evening of February 25 in honor of Dr. W. S. Fulton, Wheeling, President of the State Association. Dr. A. R. Sidell presided and there were 37 members and guests in attendance.

Dr. Fulton spoke on Social Security with particular reference to medical participation in the public assistance program. He urged the members of the Academy to assist and cooperate in this important work, which he described in detail.

Dr. B. H. Swint, Charleston, chairman of the Association's Public Assistance Advisory Committee, and Mr. Joe W. Savage, state secretary, preceded Dr. Fulton on the program. Dr. Swint described briefly the problems confronting the state committee and Mr. Savage spoke on pending legislation. Many questions were asked of the speakers following Dr. Fulton's address.

The regular meeting of the Academy was held at the Camden Clark Memorial Hospital on the evening of March 4 with 30 members and guests in attendance. The guest speaker of the evening was Dr. L. D. Norris, Fairmont, who gave an excellent paper entitled, "A Review of Some of the Newer Methods of Anesthesia." Discussion was opened by Dr. S. M. Prunty, Dr. Giltner and Dr. Wise after which Dr. Norris answered a number of timely questions.

Dr. L. O. Rose presented a case of epithelioma of the right mastoid area involving the external ear. The case showed evidence of healing following radium treatment.

Following the regular session, a buffet supper was served to the members and guests present.

BERLIN B. NICHOLSON, *Secretary*.

RALEIGH COUNTY

The Raleigh County Medical Society had a dinner meeting at the Beckley Hotel, Thursday, March 18, 1937. Dr. L. G. Houser, president, presided over the meeting which was well attended.

The speaker of the evening was Dr. A. S. Wilson, Port Gamble, Washington, who practiced medicine in India for 30 years. Dr. Wilson stated that religion and the caste system hindered the advancement of medical science in India.

Dr. R. G. Broaddus, Dr. D. C. Ashton and Dr. D. L. Hill were appointed to serve on the Medical Advisory Committee.

L. M. HALLORAN, *Secretary*.

WETZEL-TYLER

At a meeting of the Wetzel-Tyler County Medical Society held at New Martinsville on February 9 it was decided to dissolve the bi-county organization and form the Wetzel County Medical Society. Dr. T. B. Gordon of New Martinsville was elected president of the new society; Dr. L. P. Stanley, Pine Grove, vice president, and Dr. K. M. Hornbrook, New Martinsville, secretary-treasurer. Dr. V. H. Kemper, Sistersville, and Dr. F. E. Martin, New Martinsville, were named as delegates to the State Convention.

K. M. HORNBROOK, *Secretary*.

GENERAL NEWS

THE CLARKSBURG CONVENTION

Plans for the seventieth annual meeting of the West Virginia State Medical Association at Clarksburg on May 24-26, 1937, are rapidly nearing completion with every indication that it will be one of the most successful meetings in the Association's history. Advance reservations are already piling up at the Stonewall Jackson Hotel, which will be the Association headquarters.

The local general arrangements committee has already been appointed by the Harrison County Medical Society. Dr. C. O. Post is chairman, with Dr. J. E. Wilson and Dr. F. V. Langfitt as members. This committee is already at work on the various local arrangements for golfing, decorations, parking, transportation and all the many other details that go to make up a successful convention.

The sectional meetings at Clarksburg will be held on Monday, May 24. The Section on Surgery and the Eye, Ear, Nose and Throat sections will meet on Monday morning and the Section on Internal Medicine and the Pediatric Section on Monday afternoon. All of these meetings will be held in the Stonewall Jackson Hotel. The West Virginia Heart Association will meet also on Monday morning in the courthouse, directly across the street from the hotel.

The first general session will be called to order by Dr. W. S. Fulton, president, on Tuesday morning at 10 o'clock. The general sessions will continue Tuesday afternoon, Wednesday morning and Wednesday afternoon and the convention will close with the annual Convention banquet and ball on Wednesday evening. The Convention banquet will be held at the Waldo Hotel and the dance at the Stonewall Jackson.

The President's Annual Address will be delivered in the hotel ballroom on Tuesday evening, May 25. This will be followed by a meeting of the House of Delegates and the annual election of officers.

The Association Council will meet on Monday afternoon and the House of Delegates on Monday and Tuesday evenings.

The Oration on Surgery will be delivered by Dr. B. H. Swint, Charleston, on Tuesday afternoon and the Oration on Medicine will be presented by Dr. Oscar B. Biern, Huntington, on Wednesday morning.

Among the outstanding guest speakers who have accepted invitations to appear on the Clarksburg program are Dr. deWayne G. Richey of Pittsburgh, representing the Eye, Ear, Nose and Throat Section; Dr. Louis F. Bishop, Jr., of New York City, representing the West Virginia Heart Association; Dr. Ralph M. Waters of Madison, Wisconsin on "Toxic Effects of Carbon Dioxide", and Dr. N. W. Vaux of Philadelphia on "Vaginal Bleeding in the Last Trimester of Pregnancy." Dr. Thomas Parran, Director General of the United States Public Health Service, has been invited to make the banquet address.

Among the state men who will appear on the Clarksburg program will be Dr. B. H. Swint, Dr. O. B. Biern, Dr. L. C. McGhee of Elkins; Dr. J. E. Wilson, Clarksburg, and Dr. W. L. Cooke, Charleston. Dr. McGhee's paper will be on "Peptic Ulcer," Dr. Wilson's on "A Plea for Early Diagnosis of Malignancy," and Dr. Cooke's on "Empyema with Special Reference to Early Drainage."

It is hoped that the entire program, including essayists and discussants for the sectional and general sessions, will be completed and published in full in the May JOURNAL.

ONE HUNDREDTH ANNIVERSARY

The Commemoratory Observance of the One Hundredth Anniversary of the St. Louis Medical Society will be held on Monday, April 5, through Wednesday, April 7, 1937, inclusive, in the building of the St. Louis Medical Society, 3839 Lindell Boulevard, St. Louis. All meetings will be held in the evening and will include a reenactment of the first meeting of the society, portrayed from the original minutes. Interested doctors are invited to attend.

MEMBERSHIP INCREASES

While there can be no established increase in Association membership until all members are paid up for 1937, it now appears by comparison with last year's figures that there will be a definite increase in membership this year. At the time this article was written (March 26, 1937), there were 733 members already reported for the current year. On the same date in 1936 only 599 members had been reported. This is a healthy sign not only of increased membership but also of increased interest in the Association.

The first society to report its 1937 membership 100 per cent paid up was the Eastern Panhandle Society composed of Berkeley, Morgan and Jefferson counties. This society has also taken in four new members since January first. The only other society in the 100 per cent column at this writing is the Grant, Hardy, Hampshire, Mineral County Medical Society, which adjoins the Eastern Panhandle Society. Two new members have been added to the G. H. H. M. Society.

This is the last issue of the JOURNAL that will be sent to unpaid members. Postal regulations require that Association subscriptions which are not paid by April 1 must be dropped from the mailing list. It is to be hoped that all members will take care of their 1937 dues by the first of the month.

MEDICAL CREDIT BUREAU

The Sedgewick County Medical Society at Wichita, Kansas, after more than a year's study, has just instituted a medical service credit bureau to serve the low income wage earners and to assist member physicians to charge and collect proper fees. An interesting feature of the plan is that the Wichita Community Chest pays the salary of a trained medical social worker to handle and investigate all cases referred to the Bureau.

Briefly the Sedgewick County plan provides that physicians may refer low income patients to the Bureau whenever the physician is uncertain about the income of the patient, his ability to pay, the amount of the fee to be charged and the method of collecting the account. Such patients who are referred are thoroughly investigated, a fee commensurate with the patient's income is fixed and the bureau finances the physician's charge and collects the account on the installment plan. No patient is considered by the Bureau unless referred by his or her family physician.

In outlining the advantages of the plan, the *Bulletin* of the Sedgewick County Medical Society makes the following points: "(a) A community business bureau with which small wage earners can make arrangements to pay sickness expenses on a deferred payment basis will lighten the burden of medical expenses because it will permit him to spread the cost out over a period of months. (b) The plan would relieve the private physician of obnoxious duties in determining the financial status of the patient and in trying to effect payment. (c) The plan will permit a pleasant professional relationship between the doctor and his patient, the commercial or business responsibility being assumed by the bureau. (d) If allied professions are included the entire cost of an illness can be paid for in regular installments and each agency rendering the service, *i.e.*, pharmacist, nurse, dentist, hospital and doctor, will receive his proper share of payment. (e) The installment service bureau will be connected with the collection bureau in such a manner that both departments could operate most efficiently in improving collections for medical services. (f) The economic aspect of medical practice will be placed on a business-like basis and patients would deal with an official agency which would assist them to pay their medical bills without paying a loan company's high interest commission. (g) The doctor will be assisted in keeping his clientele intact because the patient will be dealing with another agency and will not be so prone to ignore his statement and go to another doctor when sickness again occurs. (h) Patients who are now treated as charity may be placed on a part-pay basis if the doctor requests that the bureau arrange for payments on a reduced fee. (i) The bureau will frequently be able to arrange for salary deductions through an agreement with employers, an advantage which the doctor is seldom able to secure. (j) Assistance of the bureau will encourage patients to seek medical attention since they will know they can make business-like arrangements for deferred payment. (k) The bureau will improve the cordial relationship between the doctor and his patient in those cases requiring special arrangements for payment because the responsibility for this problem will be assumed entirely by the bureau. (l) It will improve the health of the community by placing adequate medical care at the disposal of low-wage earners who now seek charity or fail to consult a physician because they are reluctant to ask for a special arrangement for paying their medical bill.

CENTRAL WEST VIRGINIA

Doctors in the central part of the state are invited to attend the quarterly meeting of the Central West Virginia Medical Society which will be held at Gassaway, Braxton County, at 6:15 o'clock p. m., on the evening of March 30. The program will follow a dinner at the Gassaway M. E. church. Reservations should be made with Dr. M. T. Morrison, Sutton.

ANNUAL POSTGRADUATE INSTITUTE

The large number of advance registrations presages a large attendance of physicians at the Second Annual Postgraduate Institute to be held in Philadelphia, April 12 to 16, 1937. The subject of this year's meeting will be "Diseases of the Chest and Upper Respiratory Tract", and the speakers are all men of national reputation.

Among the features of the meeting are the opening day luncheon on Monday, April 12, when Dr. Donald Guthrie, chairman of the Committee on Postgraduate Teaching of The Pennsylvania Medical Society will be a speaker; also the dinner on Wednesday evening, April 14, when Dr. Frederick J. Bishop, president-elect of The Medical Society of Pennsylvania and Dr. J. Shelton Horsley of Richmond, Virginia will be the speakers.

Dr. Horsley will deliver the Dr. J. Chalmers DaCosta Oration on "Peritonitis." At the same meeting the Annual Strittmatter Award will be made. Honorable S. Davis Wilson, Mayor of the City of Philadelphia, will be present and speak at both the luncheon and the dinner.

All physicians who register are invited to purchase tickets for both the opening day luncheon on Monday and the dinner on Wednesday.

COUNTY ADVISORY COMMITTEES

(Editor's Note—We feel that all Association members and particularly those on their County Society Advisory Committees will be interested in the following bulletin recently sent out to all of the County Public Assistance Directors by Mr. A. W. Garnett, State Director. With the Department's permission, we are publishing this bulletin in full to indicate the Department's attitude toward the profession and to show the cooperative spirit that exists.)

To all County Directors and County Council Members:

After conferring at some length with officials of the West Virginia State Medical Association and the Hospital Association of West Virginia we have devised the following plan for regulating the medical relief and relief hospitalization programs, and recommend it to all County Departments of Public Assistance:

Each County Department shall have a County Medical Advisory Committee representing the medical profession in that county, and this committee is to meet periodically (preferably weekly) with the County Director, and, when necessary, with the County Council for the purpose of advising on all problems pertaining to medical relief and relief hospitalization. County Departments are urged to contact the secretaries of County or Inter-County Medical Societies and make arrangements to confer with the County Medical Advisory Committees representing those societies. A list of County or Inter-County Medical Society Secretaries is attached hereto for your information.

You are urged to cooperate with your County Medical Advisory Committee to the fullest extent, but in the event that you are not able to come to an agreement on any matter affecting the medical relief or relief hospitalization programs, the differences of opinion should be submitted to the State Department for reference to the West Virginia State Medical Association and Hospital Association of West Virginia Advisory Committees, for advice and arbitration.

The County Medical Advisory Committee should be of considerable value to your County Department in settling the disputes of individual doctors or hospitals rendering bills which are not in conformity with the rules and regulations. If any such settlement is not satisfactory to any party concerned, it would be the part of wisdom to refer the matter to the State Department for adjudication by the State Advisory Committees.

The West Virginia State Medical Association and the Hospital Association of West Virginia are fully aware of our problems, as well as their own, and the members of their Advisory Committees know that sufficient funds are not available to carry out state-wide medical relief and relief hospitalization programs in accordance with prevailing fees. Therefore, we are placing responsibility for guiding us in these programs in their hands—a responsibility which they are willing to accept. Of course, if this arrangement does not work out satisfactorily, some other adjustments will have to be made later on.

Because the Medical and Hospital Associations are willing to accept responsibility, it is respectfully recommended that the procedure outlined in the Manual be abided by in the counties; particularly the policy of providing for free choice of physician or hospital within the limitations imposed by the Manual, namely, licensed physicians and approved hospitals.

The State Department is still working with the Medical and Hospital Associations on a plan whereby we expect to assist in keeping the costs of medical relief and relief hospitalization within budgetary

limits. We fully expect to pass along to the County Departments some new recommendations on budgetary procedure and fee payments within a few days.

In the meantime, you will please contact your County Medical Advisory Committees through the County or Inter-County Medical Society secretaries and seek their cooperation to your mutual advantage.

CONSTITUTION AMENDMENTS

Three proposed amendments to the Constitution of the West Virginia State Medical Association, introduced at the Fairmont meeting of the House of Delegates last year, will be up for consideration at the Clarksburg meeting on the evening of May 24, 1937. These amendments were proposed by a special committee on Constitutional Revision consisting of Dr. W. E. Vest, Dr. Albert H. Hoge and Dr. R. K. Buford. The proposed changes are:

Section 1, Article V, now reads:

"Section 1. The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) delegates elected by the component county societies; (2) the Councillors; (3) all ex-presidents; and (4) ex-officio the President and Treasurer of this Association."

The Amendment reads as follows:

"Section 1. The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) delegates elected by the component county societies; (2) all ex-presidents; and (3) ex-officio the President, the two Vice-Presidents and the Treasurer of this Association. The Councillors shall attend the meetings of the House of Delegates and may participate in all discussions but shall have no vote."

Section 2 of Article IX now reads:

" 'Section 2. The Officers, except the Councillors, shall be elected annually. The terms of the Councillors shall be for two years, one-half being chosen each year. No Councillor shall be eligible to succeed himself after four years as Councillor, but may be elected after two years' absence from the Council. All these officers shall serve until their successors are elected and installed.'

The Amendment reads as follows:

" 'Section 2. The officers, except the Councillors, shall be elected annually. The terms of the Councillors shall be for two years, one from each Councillor District being chosen each year. No Councillor shall be eligible to succeed himself after four years as Councillor, but he may be elected after two years' absence from the Council. All these officers shall serve until their successors are elected and installed. The calendar year next succeeding their election shall constitute the terms of the officers of the elective offices except for the members of the Council, who shall serve as provided above in this section.' "

Section 4, Article IX, now reads:

" 'Section 4. The retiring President shall be Chairman of the Council for the year following his term of office, and shall not be eligible thereafter for any elective office of the Association except for delegate to the American Medical Association, Board of Publishers, or Scientific Committee member.'

The Amendment reads as follows:

" 'Section 4. The retiring President shall be Chairman of the Council for the year following his term of office, and he shall not be eligible thereafter for any elective office of the Association except for delegate to the American Medical Association and committee memberships.' "

STATEMENT OF POLICY

Once again the JOURNAL desires to call attention to the statement of policy set up by the Association Council last December to guide the medical profession in its relationship to the State Department of Public Assistance. This policy has been approved by the Public Assistance Department and is a part of their manual of procedure for county administrators. It is hoped that all Association members will familiarize themselves with this statement of policy. It follows:

"1. Insofar as it is practicable, every patient should have the privilege of selecting his physician and hospital.

"2. Patients who have no choice should be assigned in rotation to those doctors who signify their willingness to receive such assignments.

"3. Every doctor in the respective county medical societies should have the privilege of contributing his share of the medical care of those persons eligible to receive medical relief.

"4. In the larger counties the County Director should maintain 24-hour service in his office in order that needed medical service may be authorized at any time.

"5. Except in emergencies, patients classified as indigent should not be given medical, surgical or hospital care unless they present written authorization for the same from the office of the County Director.

"6. Emergency cases should be treated immediately and authorization requested within the next 48 hours.

"7. If it is necessary to employ a consultant he should be paid the usual first visit fee.

"8. A complete record of all medical services should be kept in the County Director's office, and when the occasion arises, a notation in regard to criticisms or complaints coming from either the doctor or the patient should be incorporated in the record.

"9. The members of the Medical Association are willing to contribute their services with the understanding that their remuneration will be only a fraction of the normal fees. The schedule of payments for services to the indigent does not constitute a precedent for any other fee schedule. It does not represent adequate compensation for services rendered, but, on the other hand, serves to indicate the willingness of the physicians to contribute . . . their share toward a great humanitarian movement.

"10. In view of the fact that physicians are willing to render services for small fees in order to reduce the cost of medical care, they feel that other agencies contributing to this work should be called upon to make minimum charges also. Arrangements should be made so as to obtain medicine at cost plus a very nominal profit. When a doctor dispenses his own medicine, there should be a modest allowance on that account.

"11. The physicians providing medical relief services should be reminded from time to time that the costs of medications may be reduced by prescribing simple remedies from the pharmacopoeia rather than the more expensive proprietary medicines. Prescriptions for unusual drugs should not be filled without definite authorization.

"12. Ambulatory patients should be sent to the doctor's office and thus eliminate unnecessary house calls.

"13. Special Medical Advisory Committees of the County Medical Societies are in a position to give the County Directors and the County Councils very valuable assistance in matters involving technical details or medical usage. It is suggested that the County Director and other interested agents of the County Departments of Public Assistance have regular, scheduled conferences (perhaps once a month, or more often), with the members of the County Medical Society Advisory Committees. At such conferences the Director should present the problems which have arisen within the period between the dates of such meetings. Some of these problems would be as follows:

"a. The authorization of special prescriptions.

"b. The authorization of continuous attention for patients suffering chronic diseases.

"c. The question of equitable compensation for unusual cases.

"d. The curtailment of medical or drug bills which appear to be excessive and unjustified.

"e. The problem of allocation of medical and hospital assignments."

SYPHILIS ERADICATION

Largely through the efforts of Surgeon-General Thomas Parran this country is becoming conscious of the existence of our venereal disease problem. Many of the leading lay publications have published recent articles on the possibilities of controlling syphilis and gonorrhea. The radio has at last allowed the use of these two words in broadcasting.

It is now proposed that a nation-wide control program be worked out through the medium of the Federal Social Security Act. Dr. William F. Snow, Director of the American Social Hygiene Association, outlined the possibilities in a recent article published in the *Journal of Social Hygiene* entitled "Syphilis and Social Security." As a basis for Social Security Act grants in aid to states he cites the provisions of the Act bearing most directly upon social hygiene problems. Under four separate headings he writes:

1. "The states may make plans for bringing about improvement and revision of their state and local health services, laws, and regulations with a view to establishing and maintaining adequate

public health services, including the training of personnel for state and local health work. These plans and estimate may be submitted by the proper state health authorities to the United States Public Health Service for notation in connection with applications for federal assistance in carrying out such plans efficiently. With the approval of the Surgeon General appropriations to assist in such work, totaling $8,000,000 annually, may be made to the states and their local health districts; in addition to provision of certain consultant services and temporary personnel.

2. "The U. S. Public Health Service is provided with $2,000,000 annually for research and related field studies, the results of which may be utilized by all the states and local health authorities and agencies.

3. "The U. S. Children's Bureau, similarly, is provided under this Act with some $3,800,000 annually for aid to the states in building up their material and child health activities. While the details of distribution differ from the requirements imposed by the Act upon the Public Health Service and the states in qualifying for grants, the Bureau must receive formal applications through the health authorities and is governed by the same general purpose of bringing all backward services into line with modern procedures and the securing of maximum results.

4. "Other titles of the Act are of interest to social hygiene agencies, such as the provision of $1,500,000 through the Children's Bureau to enable the United States to cooperate with the states in establishing, extending and strengthening in predominantly rural areas, child welfare services for the protection and care of homeless, dependent and neglected children, and children in danger of becoming delinquent."

POSTGRADUATE STUDY

The annual postgraduate course sponsored by the Indiana University School of Medicine and the Indiana State Medical Association will be presented in Indianapolis, May 10 to 14, 1937. The schedule this year includes speakers and subjects that will interest every physician. There will be clinics, lectures, panel discussions, practical demonstrations, and clinical-pathological conferences during the hours from eight o'clock in the morning until five o'clock in the afternoon.

Evening guest speakers will include Dr. Samuel A. Levine of Boston, assistant professor of medicine in the Harvard University Medical School and author of a recent popular text-book on cardiac diseases, who will be the speaker on Monday evening, May tenth. The following evening, May eleventh, Dr. Vernon C. David of Chicago, clinical professor of surgery in Rush Medical College, will be the speaker. On Wednesday evening, Dr. Frank Mann of Rochester, Minnesota, professor of pathology, surgery and experimental physiology in the University of Minnesota, Graduate School of Medicine, will share the evening hour with Dr. Nicholas J. Eastman of Baltimore, professor of obstetrics in Johns Hopkins University School of Medicine. Thursday evening, May thirteenth, the guest speaker will be Dr. Harold N. Cole of Cleveland, associate clinical professor of dermatology and syphilology in Western Reserve University School of Medicine.

A new feature of this year's postgraduate program will be the Friday evening meeting May fourteenth, which will be open to the public. Dr. Maude Slye, associate professor of pathology, University of Chicago, whose research work upon cancer in mice has attracted much attention, will be the speaker.

There will be no registration or attendance fee for this postgraduate course. All physicians in good standing in their local medical societies will be welcome.

IN THE MOVIES

Surgeon General Thomas Parran, Jr., Rockefeller Institute's James B. Murphy, Columbia University's Francis Carter Wood, Chicago's Maud Syle, Maine's C. C. Little, Dr. Morris Fishbein of the American Medical Association, Dr. Robert B. Greenough, surgeon, and James Ewing, pathologist, are now in the movies.

The March of Time, news magazine of the air, in its current release, features an episode entitled "Conquering Cancer." We are calling attention to this because many of our readers will enjoy seeing these famous men in the movies, and listening to their message describing some of the latest advances in the campaign against cancer. The film was prepared with the cooperation and assistance of the American Society for the Control of Cancer.

FROM OTHER JOURNALS

THE NATIONAL CANCER CAMPAIGN

As the various menaces to man's health and happiness reach a stage where a frontal attack on them is possible a mobilization of our resources against them is inevitable.

Tuberculosis, blindness, maternal health, child welfare, crippled children, The American Red Cross are names or phrases which offer a welcome challenge to public spirited and sympathetic men and women all over the United States.

With the appearance of each new organization comes more need for self-sacrifice and public service. It would require superhuman qualities not to feel a little worry as the number of appeals continues to mount. In spite of this fact, however, mature thought and consideration has shown that in every instance the need is urgent and very real and that the new organization is well qualified to meet it.

The most recent group to mobilize its strength against a great and cruel scourge is the Women's Field Army of the American Society for the Control of Cancer. This nation-wide organization of the women of America will conduct a steady and relentless war to save, not to take human life. It is the kind of happy, wholesome fight against fear and ignorance in which everyone can and should willingly take part.

The enemy is a cold and subtle killer which last year took more than 140,000 lives in the United States alone. It has been estimated that there are between three and five hundred thousand sufferers from this disease alive today. Perhaps half of them might be saved if knowledge of the signs and symptoms which might mean early cancer were given to them and if they were also strengthened by courage to act on that information without delay.

To the millions of our people whose relatives and friends have borne the cross of cancer the call to arms will come as a welcome and long awaited summons. There will be a real and lasting satisfaction in enlisting as a soldier in a great fight. Cancer is no respecter of class, race, or creed. To combat it is a common task which will recognize no preference. It is a truly unifying and democratic undertaking which should mean all the more in the midst of a civilization torn with undemocratic claims for selfish rewards.

The fight will last long and will require both courage and patience. It must be a matter of personal responsibility undertaken willingly in memory of those who have suffered and for the protection of the hundreds of thousands who need no longer do so. No one is so busy that he can afford to neglect his part in the united effort to check the silent inroads of a cruel killer.

When in March the first enlistment campaign is conducted there will be hundreds of thousands who flock eagerly to the symbol of the drawn sword and who will gladly do their part to bring light and peace where the darkness of ignorance and the sorrow of fear now are found.—*Illinois Medical Journal.*

CENSORED ADVERTISING

Within recent days the medical profession has been widely circularized concerning a product lately placed upon the market, protamine zinc insulin. Since Hagedorn reported this valuable modification of insulin in 1935 we have been led to believe that we might at any time expect its early commercialization. The expected has now happened and the medical profession welcomes the new weapon in its struggle with diabetes. The new preparation will not entirely displace old insulin. Its main indications will be in those cases where unmodified insulin causes frequent hypoglycemic reactions or is otherwise unable to provide adequate control, and "in those cases where the original preparation requires to be administered in several doses daily." We are warned that as yet this preparation is not to be employed in diabetic coma, in diabetes complicated by infection, or in the preoperative preparation of the diabetic.

As interesting as these facts are, perhaps more interesting is the way in which this announcement is made. We have before us the printed advertisement of the preparation by two outstanding makers. From the first word of the first paragraph to the last word of the last paragraph, the two pamphlets are identical. They carry the same historical note, the same indications and dosage, the same cautions, the same number of units in the same 10 cc. sized vials. Only the names of the two firms and the format differ. The reader recognizes some unseen hand of power and wisdom behind this studied announcement of the new biological preparation. How much therapeutic confusion might be avoided

if some central authority controlled in this same way all the thousands of preparations that now flood the market. If such should ever come to pass, one thing can be said with certainty, the useful preparations could be numbered in hundreds rather than in thousands as is now the case.—*Virginia Medical Monthly*.

PROTECTION FOR RETIRED PHYSICIANS

The following is from the special correspondent of the American Medical Association in London:

It has been a matter of concern for some time to the Medical Defense Union that on retiring from practice physicians resign their membership, in spite of a letter pointing out that even after retirement they are still liable to attack for alleged misdeeds during practice. The union has therefore made a proposal offering special terms to retiring physicians. Those who have been members for 10 years or less may become life members on payment of $15; those who have been members for more than 10 years but less than 15, on payment of $10, and those who have been members for more than 15 years, on payment of $5. This arrangement will cease if the member should re-engage in practice in any form other than a casual attendance dictated by the circumstances of an accident or emergency. If he re-engages he must become reinstated as an ordinary member by paying the usual annual subscription until such time as he again retires, when he will become a life member without further payment. The records of the society show several cases in which an attack was made on a physician after several years of retirement—in one case as long as 22 years. But according to recent legislation such attack is now barred after a period of six years from the occurrence.—*Pennsylvania Medical Journal*.

COUNTY SOCIETY PROGRAMS

In making a plea for improvement of the scientific programs of county medical meetings, Dr. Iago Galdston, executive secretary of the Medical Information Bureau of the New York Academy of Medicine, in a recent issue of the *New England Journal of Medicine*, expressed a thought which is well worth passing on to county society officials.

While lauding the opportunities offered by postgraduate courses, Dr. Galdston emphasized the necessity of providing for the physician in active practice so that he may bring his knowledge up to the mark without withdrawing from everyday activity.

Pointing out that the county society meeting is the common meeting-place for physicians, he urged that periodically résumé programs be offered at such meetings—not résumés of what is the newest, the most recent and the least tried of medical ideas and practices, but rather résumés of what is known, what is accepted and what has been proved.

Said Dr. Galdston:

"This idea is a simple one. Alas, too fatally simple. For, if it is applied crudely, uncritically, it creates a pathetic effect. What can be more boring than being told what is all too well known? Hash is hash, even when called a résumé. But we are not after hash in the résumé meeting. We need and desire a recrystallization of thought and knowledge in a given field, a rearrangement of old elements to make a new pattern, a trimming of dead limbs to bring new life into a branch of knowledge. All of which calls for the choice of a suitable subject and a competent essayist.

"There is a time and seasonableness for subjects. Not all may be revalued effectively; in many there is nothing new to report, as the old concepts still hold good. But others cry for restatement. There is a sort of nodal point at which progress in a given field may be focused to form a new and clear picture. Such is the instance now in the diseases of the blood, and in the evaluation of the emotional factor in functional disturbance. A year from now the time may be ripe for a résumé of physical therapy in general practice. Nutrition, the diagnosis and treatment of tuberculosis and traumatic surgery are fit subjects for restatement.

"But one cannot readily compose a catalogue and schedule of subjects to be so treated which are suitable for differing times and places. The task is not for one man and the problem varies from place to place. But the essential idea is important. A résumé is not a mere restatement of what is known. It is essentially a philosophical task, it is the bringing forth of a new concept, at times furthering, at times reversing, the older concept. It is a critical evaluation, a sifting of older knowledge and its amalgamation with newer knowledge. A résumé is, indeed, of the very nature of the philosophy of medicine, that phase of medicine which is as precious as its science." — *Ohio State Medical Journal*.

PSYCHIATRY AND MEDICINE

The practice of psychiatry is recognized as a form of medical specialty. In view of the great number of persons with mental diseases, particularly in governmental institutions and special hospitals, there is need for specialized training to assure the best of professional service as well as to further the necessary clinical investigation and research.

While the population of special hospitals for mental diseases parallels that of the colleges and universities in this country, a much larger number of less fully developed cases comes under the observation of the general medical practitioner.

It was a forward step when a plan was instituted recently in several leading medical schools for the professor of psychiatry to select his patients for clinical demonstration from the general medical wards.

The general practitioner if properly trained is best able to recognize the early symptoms of mental diseases as well as the first indications of organic heart disease, metabolic disorders such as diabetes and pernicious anemia, tuberculosis, and many others at a stage at which appropriate treatment will be of greatest avail.

After mental disorders are definitely established the treatment is largely limited to special institutional care.

Psychiatry should therefore have an important place in the medical curriculum and the training of general practitioners.—*Federation Bulletin.*

MODERN HEALTH ADVERTISING

Back in 1929 this publication commented editorially on the problem of public health education in the following terms: " 'Health' as such—bald naked health, is said to be the most difficult commodity we have to sell today. To be sure it cannot be measured out by the pound or pint, it cannot be taken chocolate covered or in chewing gum, but it is the most valuable commodity that can be bought; it is the magic accessory which enables us to enjoy all of our other purchases. It should not be hard to sell.

"If the health appeal will sell enough cigarettes to hurt the candy industry, if health-appeal advertising will arouse to retaliation the makers of hand-made cigars, surely we should be able to sell the real article. If we cannot, there is something wrong with our advertising or our sales approach. Health can be sold, health can be made an article of popular appeal. When the medical profession, the health departments and agencies take a leaf out of the book of our commercial friends, when we 'study our field,' 'analyze our market,' take steps to determine and overcome our 'sales resistance' we can sell Health and sell it in large doses.

"To paraphrase Mr. Kipling: 'It's the 'ammer, 'ammer, 'ammer of the printed word.' We must dress up our package, revise our publicity copy and employ more attractive advertising media. If we do this we need have no concern about the competition of the cultists, the faddists or the uplifters. Ours is a legitimate product and if properly marketed will bring its own price."

A great deal has happened in the health field since these remarks were written—not the least of which is the very splendid campaign of health education which is now being conducted by the American Society for the Control of Cancer in the interest of its "Women's Field Army." The publishers of *Time, Life,* and *Fortune* magazines have lent to the cancer cause the services of their advertising experts to work in cooperation with the health education experts of the cancer society. The result has been a very startling increase in the frankness with which the subject of cancer is being faced and a very gratifying increase in the interest in the disease on the part of the public to whom the advertising propaganda is being directed.

The culmination of the Cancer Committee's educational activities is to be found in the current issue of the *March of Time* news reel being shown this month in several of the Nassau County theatres. So far have the leaders in the cancer work gone in the modern philosophy of "high pressure" selling and advertising that actually we have "in the movies," a group of nationally and internationally prominent men, including Surgeon - General Thomas Parran, Jr., Rockefeller Institute's Dr. James B. Murphy, Columbia University's Dr. Francis Carter Wood, Chicago's Maude Slye, and Maine's Dr. C. C. Little, also Dr. Morris Fishbein of the A. M. A., Dr. Robert B. Greenough, late surgeon of Boston and Dr. James Ewing, pathologist of New York, who are utilizing the very latest development in adult education, or propaganda if

you prefer,—nationally distributed motion pictures.

The film really amounts to a composite lecture, or perhaps a series of lectures, designed to bring the public face-to-face with the cancer problem as it exists today. Surgeon-General Parran comments: ". . . on the real cancer problem, that is, the nature and cause of cancer, there was spent less than four per cent of the cost of the funeral expenses of persons who were not saved by cancer treatment. And it is a very small fraction of the amount the public pays every year for fraudulent cures." The audience is given an idea of the research work which is actually being done, the efforts of the American Medical Association to protect the public from the cancer quack with his "guaranteed" cure, and the efforts of the American Society for the Control of Cancer to spread the knowledge that many cases of cancer can be cured provided they are recognized early and treated promptly, and emphasis is laid upon the fact that "today science is fighting cancer with new and better weapons, and for today's cancer sufferers there is brighter hope. Already the American College of Surgeons records no fewer than 24,440 cases of cancer which, treated in time, have been permanently cured."

This is a very healthy sign. Only a few years ago, it would have been practically impossible to get the magazines or our better newspapers even to mention the word "cancer" to say nothing of devoting a large amount of valuable space to a discussion of the disease. By bringing this problem out into the open, discussing it frankly, authoritatively and popularly, it is inevitable that more people will be brought to take advantage of what medical science has to offer in the way of prolongation of life for the cancer sufferer.

Meanwhile another sales campaign has been taking shape quite unobtrusively, but none the less spectacularly, beginning with Surgeon-General Parran's difference of opinion with the radio authorities over the propriety of discussing syphilis over a radio station. We have now gotten to the point where even the most conservative "family newspapers" are willing to discuss this ancient public health problem, and for the first time in history it begins to look as though we should soon be able to get somewhere in our fight against this ancient disease which in spite of being both preventable and curable is still a very major factor in our disease and death records.—*Nassau Medical News.*

THE AMERICAN FOUNDATION

There will soon be issued the report of the American Foundation Studies in Government. This Foundation made a nation-wide survey, consulting competent medical opinion throughout the country, on the conditions of medical practice—what changes the current era warrants adopting for the delivery of medical care to the American people, and what form such changes, if any, should take.

There was no preconceived idea behind this study. There was an honest effort to find out what the American doctor thought about the questions.

The forthcoming report is the first survey made by an extra-medical body which has exclusively consulted medical opinion on the mooted questions at issue. As such, it is indeed welcome.

Our opportunity is now. Study the report; it was written by your colleagues. Then let us act. Informed public opinion expects no less than that of us.—*N. Y. Journal of Medicine.*

COMMUNICATIONS

(Editor's Note—The following letter was recently received from the isolated mountain section of Fayette County, in response to an inquiry about medical service. It is published just as it was received from the writer.)

NARCOTTICK FEANS

Dear Sir,

Your Letter recived and contents noted. I thank you for this Letter All So I wish to thank Mr. R. L. Mathews our representative from Montgomery, W. Va. I just wish to advise you that we have one of the Best Locations for a good Strong medical doctor at Dawson Greenbrier County, W. Va. In a good farming Section a 10 mile Boundary with people that would try to Pay a Doctor but most of our Medical Doctors Live in the little town 8 to 12 miles a Way and when we Kneed one of them we cant get them for less $25 to $50 and Some times $100.00 and we go through this mud and I just rote Mr. Mathew J. Alford Taylor Sr. and Mr. tuckwillow all So Miss Nelly Walker to See if they would take Some Step or Put a Bill before the house to compell Doctors to go at a fair price and our Poor people could not Pay Let the State pay a Fair Price most of the one horse Doctors ar Looking for a white collar job and if they cant find that the money is a Little Slow they wont come all

So they Last 3 or 4 quack Doctors that we have been able to get on this Field was Either a Booze hister or a narcottick fean and 2 out of 4 Died in the Penitentiary for Drugs I hope the 4 named parties above will have the back Bone to try to relieve us. most of our Poor people have about decided to Save their money for the undertaker and Let the quack Doctor Stay at home for I reallize that Its a fake after all So I close by Asking you to pleas try to get Some good strong medical Doctor to Locate at Dawson Greenbrier co W Va They can use a car 9 month out of 12 Now and It will bee better next year.

Hoping Something May be done Soon
truly yours

A. M. A. GOLFERS

The American Medical Golfing Association will held its twenty-third annual tournament at beautiful Seaview Country Club, Atlantic City, New Jersey, on Monday, June 7, 1937. Thirty-six holes of golf will be played in competition for the seventy trophies and prizes in the nine events. Trophies will be awarded for the Association Championship, thirty-six holes gross, The Will Walter Trophy; the Association Handicap Championship, thirty-six holes net, The Detroit Trophy; the Championship Flight, First Gross, thirty-six holes, The St. Louis Trophy; the Championship Flight, First Net, thirty-six holes, The President's Trophy; the Eighteen Hole Championship, The Golden State Trophy; the Eighteen Hole Handicap Championship, The Ben Thomas Trophy; the Maturity Event, limited to Fellows over 60 years of age, The Minneapolis Trophy; the Oldguard Championship, limited to competition of past presidents, The Wendell Phillips Trophy; and the Kickers Handicap, The Wisconsin Trophy. Other events and prizes will be announced later.

NEISSERIAN SOCIETY

The third annual meeting of the American Neisserian Medical Society will be held on June 8, 1937 in the Senator, Atlantic City.

The program will consist of papers and discussions of the various phases of the management and control of gonorrhea. All who are interested are cordially invited to be present.

The meeting will begin promptly at 10:00 a. m. and will continue through the day.

WOMAN'S AUXILIARY

CABELL COUNTY

The Cabell County Medical Society Auxiliary met on January 11, for a chop suey luncheon. Mrs. J. J. Brandabur and Mrs. J. H. Steenbergen were co-hostesses. Eighteen members were present.

Mrs. H. E. Beard gave a report of the Christmas baskets distributed and also made the treasurer's report.

During the business session a motion was made and passed to the effect that the Auxiliary donate $150.00 to St. Mary's Hospital toward their building program.

The Auxiliary to the Cabell Society met on March 8, at the home of Mrs. Edwin J. Humphrey, Jr., with Mrs. I. W. Taylor as assistant hostess. Mrs. W. O. Grimm presided. Seventeen members were present.

Dr. W. F. Beckner spoke to the Auxiliary on the latest developments in sight-saving—both medical and surgical. Mrs. R. S. Musgrave and Mr. W. M. Langstaff from the Appalachian Electric Power Company gave a demonstration of manufactured developments in improved home lighting which prevents eye strain.

Mrs. H. E. Beard's report of the treasury was made and accepted and final dues were collected.

The next meeting of the Auxiliary will be held April 15, at the home of Mrs. W. D. Bourn in Barboursville, W. Va.

MRS. EDWIN J. HUMPHREY, JR., *Secretary*.

FAYETTE COUNTY

The Fayette County Medical Society Auxiliary met on February 18 at the Woman's Club in Montgomery for a one o'clock luncheon. Mrs. B. F. Brugh and Mrs. Ralph Hogshead were hostesses for the occasion.

Dr. W. S. Fulton of Wheeling, State President of the Medical Association, was the guest of honor. He addressed the Auxiliary on the subject "The Social Security Program." Mr. Joe W. Savage, Executive Secretary, accompanied Dr. Fulton to the meeting and spoke for a short while on medical legislation before the 1937 session of the Legislature.

Music for the luncheon was furnished by the Montgomery high school band. Approximately forty members, out-of-town guests and doctors attended this luncheon-meeting. Among those who made short talks were Mrs. M. F. Petersen, Mrs. Robert Price and Mrs. M. I. Mendeloff, all of Charleston.

The Auxiliary to the Fayette County Medical Society met on Thursday, March 18, for a one o'clock luncheon in the M. E. Church parlor, Montgomery. Mrs. B. F. Brugh of Montgomery had charge of the luncheon arrangements.

Mrs. H. F. Troutman, president-elect, presided over the meeting in the absence of the president. Reports were given from the different committees. Several letters of interest were read from Mrs. Nell Walker, Mrs. A. H. Stevens, and Dr. W. S. Fulton.

Eighteen members were present for the meeting.

Professor G. J. Raub of New River State College gave an interesting talk on "Work Done by the Lions Club in the Conservation of Eyesight."

A review of the "American Doctor's Odessey" by Dr. Hessins was given in open forum style by Mrs. T. G. Reed, Mrs. P. A. Tuckwiller and Mrs. Howard Swartz, all of Charleston.

MRS. G. G. HODGES, *Secretary*.

LOGAN COUNTY

The Auxiliary to the Logan County Medical Society met on March 2, at the Aracoma Hotel, Logan. Dr. S. B. Lawson was host to the Auxiliary at luncheon.

Mrs. J. L. Patterson presided over the meeting. Seventeen members were present. Dr. S. B. Lawson was the principal speaker. His subject was "Mothers."

The April meeting will be held at the home of Mrs. B. C. Harris.

MRS. F. L. ROUND, *Secretary*.

MARION COUNTY

The Auxiliary to the Marion County Medical Society met on February 23, at the Fairmont Hotel, Fairmont. Mrs. John Helmick, first vice president, presided. Sixteen members were present.

Dr. J. S. Maxwell addressed the gathering, his subject being "Conservation of Vision." Dr. Louis Blanton spoke on "The New Health Unit."

HYCLORITE

HYCLORITE SOLUTION SODIUM HYPOCHLORITE

Accepted by the Council on Pharmacy and Chemistry of the American Medical Association (N.N.R.)

ANTISEPTIC

An Aid For The Prevention Of Ringworm Infection

For irrigating, swabbing and dressing infected cases wherever an antiseptic is needed

For Hand and Skin Sterilization

To Make a Dakin's Solution of Correct Hypochlorite Strength and Alkalinity

NON-POISONOUS
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ON ALL BLOOD SPECIMENS

Clinical Pathology

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A general discussion took place of bills pending in the Legislature of interest to the medical profession.

It was decided to review "The American Doctor's Odessey" at the next meeting of the Auxiliary.

MRS. J. R. TUCKWILLER, *Secretary*.

PARKERSBURG

The Auxiliary to the Academy of Medicine, Parkersburg, met on Tuesday, March 9, at the Y. W. C. A. Mrs. Arthur D. Knott presided. Twenty-six members attended the meeting.

Mrs. R. D. Latimer read to the Auxiliary, Dr. Fulton's President's Page from the March MEDICAL JOURNAL. This was generally discussed.

Mrs. Arthur D. Knott presented a very interesting paper on "Diseases of Primitive Man."

The Auxiliary made plans during the business session for the Annual Doctor's Day Dinner which is to be given on April 9.

The April meeting of the Auxiliary will be held at the home of Mrs. Harry Campbell.

MRS. B. O. ROBINSON, *Secretary*.

WITH OUR ADVERTISERS

MEAD JOHNSON & COMPANY

The present spectacle of vitamin advertising running riot in newspapers and magazines and via radio emphasizes the importance of the physician as a controlling agent in the use of vitamin products.

Mead Johnson & Company feel that vitamin therapy, like infant feeding, should be in the hands of the medical profession, and consequently refrain from exploiting vitamins to the public.

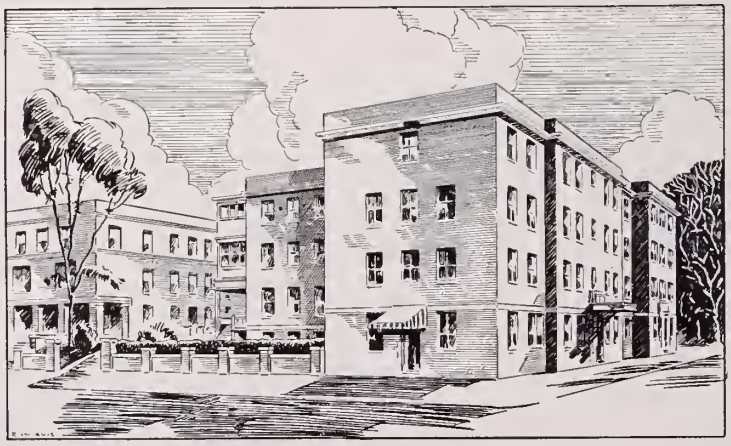
'BENZEDRINE SULFATE'

Nathanson (J. A. M. A., 108:531, Feb. 13, 1937) studied 'Benzedrine' (beta-aminopropylbenzene — benzyl methyl carbinamine) in 40 patients complaining of chronic exhaustion. It was administered also to 55 normals, who answered a detailed questionnaire as to the effects of the drug.

Small doses (20 mg. given in divided doses during the morning) gave satisfactory results in a high

(Continued on page xxiii)

McMILLAN HOSPITAL Charleston, W. Va.



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Obstetrics:
U. G. McClure, M. D.

Obstetrics and Gynecology:
F. A. Clark, M. D.

Eye, Ear, Nose and Throat:
V. E. Holcombe, M. D.

Roentgenology:
V. L. Peterson, M. D.

Internal Medicine:
H. L. Robertson, M. D., F. A. C. P.
William C. Stewart, M. D.

Medicine and Pediatrics:
Hugh G. Thompson, M. D.

Orthopedic Surgery:
Randolph L. Anderson, M. D.

Urology:
Thomas G. Reed, M. D.

Pathology:
M. Gillies, M. D.

Resident Physician:
H. W. Ward, M. D.

McMillan Hospital Training School; Sara Hamilton, R. N., Supt. of Nurses; Alma McKay, R. N., Asst. Supt.
Miss Myrtle Mullins, Instructress ::-:: **Winifred McWhirter, Night Supervisor.**

(Continued from page xx)

percentage of cases. Some unpleasant side reactions were reported such as dryness of the mouth, loss of appetite with consequent loss of weight, sweating and disturbed sleep, but these were relatively infrequent.

Favorable results included a sense of well being, increased mental efficiency and energy coupled with a greater capacity for work. Of the twenty-five subjects who were given lactose tablets as controls, 84 per cent reported no reaction of any kind.

Allen, Wilbur and McLean (Proc. Cent. Soc. Clin. Res., Nov. 6, 1936) also report 80 per cent improvement of symptoms in 95 cases suffering from melancholia, chronic fatigue or exhaustion.

STREPTOCOCCIC INFECTIONS

That para-amino-benzene-sulfonamide is an effective and specific agent in controlling infections caused by hemolytic streptococci has been the subject of several medical journal papers which have appeared in this country and abroad. It has been proclaimed as the greatest contribution to chemotherapy since Ehrlich's discovery of arsphenamine.

The Squibb Laboratories have made available five grain tablets of para-amino-benzene-sulfonamide under the name sulfanilamide,—a name suggested by the Council on Pharmacy and Chemistry, A. M. A.

Sulfanilamide is given orally. It is indicated in treatment of puerperal fever; postabortion septicemia; erysipelas; complications of scarlet fever; influenza; nasal, postnasal and throat involvements of hemolytic streptococcal origin, including septic sore throat, otitis media, cellulitis, and perhaps also in pneumonia and cerebrospinal meningitis. Initial dosage is three tablets every four hours, for one day or longer, depending upon the patient's condition. The dose may then be reduced to one tablet every four hours until recovery.

Annual Post Graduate Course

THE INDIANA UNIVERSITY SCHOOL OF MEDICINE
THE INDIANA STATE MEDICAL ASSOCIATION

WILL BE PRESENTED AT THE

INDIANA UNIVERSITY SCHOOL OF MEDICINE AND THE LINCOLN HOTEL—TRAVERTINE ROOM

All morning and afternoon sessions will be held at the University Medical School; all evening meetings will be held in the Lincoln Hotel, except the public meeting.

MAY 10 - 14, 1937

	Monday, May 10	Tuesday, May 11	Wednesday, May 12	Thursday, May 13	Friday, May 14
8:00 a. m. to 11:00 a. m.	Registration 8-9 a. m. Clinics on 1. Pediatrics 2. Medicine 3. Obstetrics 4. Gastro-Intestinal Diseases 5. Physical Therapeutics	Clinics on 1. Cardiovascular renal diseases 2. Surgery 3. Gynecology 4. Medicine 5. Otolaryngology	Clinics on 1. Orthopedics 2. Dermatology 3. Roentgenology 4. Surgery 5. Obstetrics	Clinics on 1. Urology 2. Pediatrics 3. Otolaryngology 4. Medicine 5. Neurology and Psychiatry	Clinics on 1. Cardiovascular renal diseases 2. Surgery 3. Dermatology 4. Gastro-Intestinal diseases 5. Ophthalmology
11:00 a. m. to 12:00 noon	Lecture: Vitamines	Therapeutic Aphorisms	Modern Treatment of Pneumonia	Medical Jurisprudence	Urologic and Orthopedic Aphorisms
1:30 to 2:30 p. m.	Panel discussion on Pediatrics	Panel discussion on Medicine	Panel discussion on Surgery	Panel discussion on Obstetrics	Panel discussion on Therapeutics
2:30 to 3:30 p. m.	Practical demonstration on Otolaryngology	Practical demonstration on Intravenous Therapy	Practical demonstration on Aseptic Technic and Splints	Practical demonstration on Obstetrics	Practical demonstration on Dermatology and Urethral Instrumentation
3:30 to 5:00 p. m.	CLINICAL PATHOLOGICAL CONFERENCES, WITH THE SPEAKER OF THE EVENING TAKING AN ACTIVE PART				Voluntary Examination Questions and Answers
8:00 p. m.	Guest Speaker Samuel A. Levine, M. D., Boston Assistant Professor of Medicine, Harvard University Medical School Cardiology	Guest Speaker Vernon C. David M. D., Chicago Clinical Professor of Surgery, Rush Medical College Surgery	Guest Speakers Nicholas J. Eastman, M. D., Baltimore Professor of Obstetrics, Johns Hopkins University School of Medicine Obstetrics Frank C. Mann, M. D., Rochester, Minn. Professor of Pathology, Surgery and Experimental Physiology, University of Minnesota, Graduate School of Medicine Physiology	Guest Speaker Harold N. Cole, M.D., Cleveland Associate Clinical Professor of Dermatology and Syphilology, Western Reserve University School of Medicine Syphilis	PUBLIC MEETING Guest Speaker Prof. Maude Slye Associate Professor of Pathology, University of Chicago Cancer (Another speaker to be announced later.)

THE GOLDEN TUMOR CLINIC

For the Treatment of Cancer and Allied Diseases

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(Class A, American College of Surgeons)

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A modern, well equipped, private sanatorium, beautifully located between the Allegheny and Blue Ridge mountains of Virginia. Offers treatment for tuberculosis and other chronic diseases of the chest.

Caters to convalescents or anyone desiring a rest in the mountains under ideal hygienic and climatic conditions. Physician and nurses in constant attendance. Private and semi-private cottages.

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PUBLIC LIBRARY BUILDING, CHARLESTON, W. VA.

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Vol. XXXIII MAY, 1937 No. 5

TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR*

By Charles L. Scudder, M. D.
Boston, Massachusetts

I think you may be interested in the treatment during the past few years of fractures of the hip. We are all concerned about the patient with a fractured hip. The whole subject of treatment has developed slowly and gradually. As you know, previous to forty years ago very little was done for the injury of the neck of the femur, but when Dr. Royal Whitman of New York suggested the so-called Whitman treatment it revolutionized the care of these injuries because it developed a definite plan. Whitman had his attention called to the injury by having a child brought to him with a possible diagnosis of "hip disease." The patient was examined by Dr. Whitman and found to have a fracture of the neck of the femur.

Dr. Whitman made the suggestion that fractures of the neck of the femur should be treated on the same principles as other fractures, *i. e.*, that the fracture be reduced, that it be well fixed and that the patient desist from weight bearing for about six months. This treatment has been followed pretty generally during the past forty years.

Within the last few years there have been studies made of the results of the Whitman treatment of the fractured neck of the femur. Many of you have used the so-called Whitman treatment for fracture of the neck of the femur, and I am speaking of recent fractures (those within a week or ten days) of the neck, through its middle and at the base of the neck, but not of the head, and not the intertrochanteric fractures. Studies have been made in different countries of the results of treatment by the Whitman method. You all understand how difficult it is to get together comparable statistics on any subject. The result of these studies shows that there is union following the varied applications of the Whitman treatment in about 50 per cent of cases.

Dr. A. W. Reggio of Boston, studied a series of cases and his figures show that about 50 to 55 per cent have bony union. But that result is not satisfactory.

*Read before the W. Va. Society of Industrial Physicians and Surgeons, Fairmont, on June 11, 1936.

I believe that the advent of the lateral view of the neck of the femur has marked another era in our interpretation of what happens in the treatment of fracture of the neck of the femur. Johnson of California, and Leonard of Boston, first thought of the importance of getting lateral views. The lateral view compared, as in any other fracture with the anterior-posterior view helps to determine whether reduction has been accomplished. I believe it is absolutely essential that we should use this lateral view in order to see whether we have or have not secured an actual reduction. Some men use stereoscopic plates. Stereoscopic views of a fracture of the neck of the femur are not quite as satisfactory as are anteroposterior and lateral views.

Now if we consider for a minute what has come out of this forty years of Whitman treatment, these things appear: Many delayed unions; many non-unions; many reconstruction operations; dead heads, and absorption of the neck of the femur.

It has been stated that our treatment must avoid the dead head, must avoid the absorption of the neck which is inevitable, apparently on the evidence of this forty year period. I believe that the dead head and the absorption of the neck are not inevitable; that if the fracture is adequately reduced and firmly fixed, that there will be no dead head and no absorption of the neck. The evidence of the last few years corroborates this attitude.

Out of this forty year period, besides this information regarding the pathology, has come a new knowledge of the circulation in the head and neck of the femur. I am going to show you in the lantern slides the result of the work of Wolcott of Des Moines, Iowa, who has in the last year or two demonstrated that there is an adequate supply of blood to the neck of the femur.

We have, following this forty year period, evidence that the dead head and absorption of the neck will cease when the reduction is perfect and when fixation is absolutely secure. With a new knowledge that the circulation in the neck of the femur is adequate for repair to take place we find that solid bony union occurs in a very large number of the cases treated by a method I want to describe.

We come to this particular present period with which you and I are familiar. The present period must be considered to be an experimental period to be checked up and evaluated.

I would like to mention what a few surgeons have done in the direct operative treatment of fractures of the femur. Some of you knew John B. Murphy, of Chicago, who nailed the fractures of the femur with big box nails. Then, as you know, Dr. Nicolaysen in Sweden, did the same thing with nails; a surgeon in Boston did the same thing; Delbet, in Paris, did the same thing, driving a bone nail across the line of fracture. Dr. Fred Albee of New York, has used in fresh fractures, bone pegs. There are no carefully checked statistics available to determine what the results are in these cases. In Bristol, England, Hey-Groves made an incision, exposing the hip joint, displaced the head from the socket, nailed the fractured head to the neck, and replaced it. Satisfactory results followed. A man in Milwaukee did some experimental work on dogs in which he displaced the head of the femur through a wound, broke the neck of the femur, nailed it back in place and the dogs recovered with satisfactory results. In other words, there has been an attack upon this fracture by operation along different lines. Dr. M. N. Smith-Petersen, in Boston, uses as you know, the three-flange steel nails which he drives through the trochanter into the neck, across the fracture line into the head, closes the wound, keeps the individual in bed from a few days to a week, then allows him up with a weight-bearing apparatus on crutches. I think great credit is due Smith-Petersen because he has proven that the neck of the femur tolerates the steel nail and he attempts by the three-flange nail to prevent rotation of the head on the distal fragment. Smith-Petersen's work forms the basis for the in-

ternal fixation work being done today on this fracture.

I would like to speak of the work of Callahan and Scuderi, at the Cook County Hospital, in Chicago. They introduce a two-flange nail. They are getting solid union following the use of the nail.

The work of John Caldwell in Cincinnati, is worth noting, because he has been using a method advised by Austin Moore, of South Carolina. He has nearly fifty cases. In these fifty cases there has been no mortality. He uses the three-nail method of Austin Moore. Then Wescott, in Roanoke, Virginia, is using the Smith-Petersen nail, through a lateral incision. O'Meara of Worcester, Massachusetts is using the Smith-Petersen nail and is getting good results.

There is a man by the name of Thornton, in Atlanta, Georgia, using a Smith-Petersen nail by a similar method and he is getting satisfactory results. Brewster of New Orleans is putting ordinary carpenter screws of the proper length, two screws through the trochanter, into the neck. He has a good series of cases. Dr. Martin of New Orleans was getting solid union by the use of screws. So there have been different methods of attacking the problem of internal fixation of an adequately reduced fracture of the neck of the femur.

I believe that Dr. Moore of Columbia, S. C., has a simple method and one worthy of investigation. He has now a rather large series of cases. He has individuals moving about and getting about early, and with solid bony union. Dr. Moore's method I will describe briefly.

Moore takes into consideration the general condition of the patient. A good surgeon knows when he first sees a patient, a whole lot about that patient right off. But after Moore sizes up his patient he says this patient is going to live three weeks or a month or more; if the patient is going to live only forty-eight hours there is no need of doing anything for that individual's fracture; if the individual is going to live three or four weeks it is desirable to do something for him. I saw in Cincinnati, a surgeon carry out this Moore method in a woman who was delirious. He knew she was going to die, did not know how soon, she may have had some kidney complications, but he knew that she was going to live more than a week. He placed those three nails after reducing the hip fracture. She had no more pain and was moved about easily. Now, I think that was advisable, but we are not talking about that kind of situation.

Moore, sizing up the individual, a patient of 50 or 60, decides that he is going to live more than three weeks. Very well, the individual is prepared locally over the region of the hip and upper thigh as is done for any major surgical procedure. All of this work of Moore is done under local anesthesia using novocaine. The skin preparation is adequate. Having that region clean, after preparation has been made the patient is taken to the operating room. He has a small dark room off his operating room. Under the operating table on which the patient is placed is a shelf which is hinged and movable. The shelf holds the x-ray film so that the patient does not have to be disturbed. The shelf facilitates taking the x-ray pictures. The x-rays are developed, all which takes about six minutes after the patient comes into the operating room.

In most people, the femoral artery can be palpated just below Poupart's ligament. Moore puts a needle at right angles through the thigh, on the outer side of the femoral artery just below Poupart's ligament directly into the joint and hits the head of the femur. After that needle enters the joint, the syringe of the needle recedes a little and into the syringe comes bloody fluid. This demonstrates that the joint is entered. In most recent fractures there is blood in the joint. He then introduces 25 or 30 cc. of two per cent novocaine solution directly into the hip joint. He withdraws the needle, waiting a few minutes, depending on the individual patient. The hip joint may be moved and manipulated and a

reduction of the fracture of the hip effected painlessly and perfectly. This is confirmed by a lateral and anterior-posterior x-ray developed in the developing room off the operating room. The reduction is perfect. Secure reduction any way you choose, but be gentle. Then after the fracture is reduced, no longer does the foot roll outward but the toes stay upright when the heel is supported in the palm of the hand. (The "Leadbetter test") If the length of the two legs is the same and the foot still upright, this is clinical evidence that reduction is complete.

Having reduced the fracture, having fixed the limb on the table with slight traction, sufficient to steady it, Moore puts novocaine into the subcutaneous tissue on the outer side of the trochanter and makes an incision long enough to expose the trochanter and the upper end of the shaft. Having made an adequate incision he exposes the trochanter at the beginning of the shaft. This is the region into which the nails are to be placed. We think of it not as a line but as a surface. It is obvious that this surface must be uncovered.

Moore uses three controls to be sure that he is in the proper line in the introduction of the nails. You know that if the condyles of the femur are placed squarely on the table that there is a normal angle of the neck with the shaft. In order to obliterate that angle, Moore is particular that the limb on the fracture side which is reduced, is rolled inward about 15 to 25 degrees in order to bring the neck parallel with the table. He therefore has the thigh rotated inwardly and held there. He knows that the neck of the femur is parallel with the table. He further knows that the surface below the trochanter for an inch or more is the region into which the nails should be inserted. The point on the patient's body where the needle was put in is directly over the head. A skin clip marks this spot. The nails are inserted parallel to the table top through the outer side of the junction of the trochanter and the shaft directed to the skin clip attached where the needle penetrated the joint.

He impacts the fracture by a direct blow on these nails, making sure not to make drastic impaction but absolutely sure there is direct contact of the broken surfaces. He sees the x-ray before and after impaction. He further drills through the trochanter and neck to the head, unwinding the drill gently and leaving the bone dust in the tract. The drill holes may serve as channels for new vascular supply. (Bozsan). He then closes the wound, puts on a dressing and the patient is put to bed, allowed to move the knee, hip and ankle and allowed up on crutches at the end of a week or ten days. Direct weight bearing is deferred for six weeks to three months.

Moore permits immediate movement of the limb. He cautions the patient not to bear any weight for four months, gives him crutches. The patient finds that he can bear weight and does, and comes back with the crutches in his hands. On checking up, what happens? There has been no difficulty whatever with absorption and with dead heads.

I think the contrast between these two methods, operative and non-operative, in handling this type of patient is very dramatic. I think this method has probably come to stay.

Dr. Eugene Bozsan, of New York, as you know, is very much interested in the treatment of fracture of the neck of the femur and has been drilling the great trochanter and the neck and head of the femur in these cases and immobilizing them in the Whitman plaster. He has been getting splendid results. He is now drilling these recent cases after ten days and advises that he is getting better results than when drilled immediately. He showed several cases the other day with absolutely solid union.

The drilling of the bone may facilitate healing of the fracture. It should be tried. I am inclined to think that the record is so good of the treatment of recent fractures of the neck of the femur by perfect reduction, fixed absolutely by internal absolute fixation, early motion, deferred weight bearing, that we have something to offer our patients. I think we should look upon this

method as a method that is well worth trying. I do not believe that every one of you should rush to do this operation. It is difficult; it is not easy. You know how lives were lost after Lane came over here and talked about the operative treatment of fractures. Surgeons began to put plates and wood screws into fractured bone. Infections occurred, stiff joints resulted, lives were lost, hundreds of them in this country. None of us wishes to see that operative experience repeated in this country. I believe we have in this operation of Moore's, a method which may bring great advance. Such an advance in treatment is happening in South Carolina, in Virginia and around Boston and can occur here. This operation to adequately fix the reduced fracture of the neck of the femur should be performed only by surgeons especially trained and skilled in operative work.

Each community may well delegate this treatment to certain surgeons capable of carrying on. These Moore operated cases must be followed for several years before the ultimate value of the method can be determined. The outlook for an adequate treatment of recent fracture of the neck of the femur is bright.

THE BLOOD SUPPLY TO THE PROXIMAL END OF THE FEMUR AND ITS RELATION TO FRACTURES OF THE NECK OF THE FEMUR*

By Simon B. Chandler, M. D., *Professor of Anatomy, West Virginia University, School of Medicine, Morgantown, West Virginia*

The blood supply to bone is not large except to those bones or portions thereof which are concerned in hematopoesis. Bone marrow and not the liver, is the largest organ in the body. The blood supply to the proximal end of the femur is quite large when compared to the shaft or the distal end since it is the site of red marrow. Compact bone does not possess a large blood supply because bone cells are fixed and do not have a high rate of metabolism. All long bones receive blood from three sources:

1. The nutrient artery or arteries which usually enter the shaft near the junction of the middle and distal thirds and give off branches that pass toward each end.

2. Metaphyseal vessels pass into the epiphysis or along the attachment of the capsule. This is the largest source of nutrition to the proximal end of the femur. Other names given to the vessels of this source of blood supply are juxta-epiphyseal, epiphyseal and retinacular.

3. The periosteum remains somewhat vascular throughout life and capillary sized vessels enter small canals (Volkmann) to supply compact bone.

4. A fourth source of nutrition to the proximal end of the femur is through the vessels in the ligamentum teres.

During the past six years Dr. Philip H. Kreuscher of Chicago and I have studied two of the sources of blood supply to the femur. This discussion is based on our clinical and anatomical findings.

The Ligamentum Teres: The ligamentum teres had been known since ancient times. In 1820 Paletta stated: "The obturator artery gives off a small branch which passes through the acetabular fossa and divides into two branches—one for the fossa and one which traverses the round ligament to supply the

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head of the femur." The literature has been very contradictory ever since this original statement. In 1846, Hyrtl observed vessels in the round ligament but concluded that they anastomosed with veins at the junction of the ligament with the head and then passed back through the ligament. Luschka (1865) stated that he never failed to find arteries which made their way through the pores of the fovea capitis into the substance of the head of the femur. No mention was made of the number of specimens examined. Welcker in 1876 counted the pores in the fovea capitis but said that none were present in one-third of the cases and were so small as to be negligible in the others. In 1878 Langer performed injection experiments that showed that the ligamentum teres contained vessels for the nutrition of the head of the femur in some instances, in other specimens no vessels existed and in still other cases the ligament was entirely wanting. In 1892 Moser carried out extensive experiments but concluded that the ligament becomes atrophic at about four years and wholly non-essential in adult life. Walmsley in 1915 studied the ligament in cross section by the aid of a hand lens and also by injection methods. "These results show," says Walmsley, "that the ligament does not convey blood to the head of the femur. Most of the foramina in the fovea capitis are channels of communication of the ligamentous tissue into the cartilage and osseous substance of the bone." Many clinicians have contributed to our general knowledge of the blood supply in the ligamentum teres and the proximal end of the femur. Phemister, Kolodny, Santos, and Schmorl have been outstanding in this regard. These investigators have published excellent reviews.

In 1846, Henle stated that the ligamentum teres is not a ligament and is not round. Our investigations include gross measurement of several hundred and microscopic study of 114 ligaments. Excluding specimens in which pathological change or inadequate embalming had altered the normal structures, the teres ligament was a strong supporting structure in every instance except one. It is almost always a flat band rather than round. The proximal attachment may be into the transverse ligament with extensions into the lips of the acetabular notch. It is much more commonly joined to the inferior lip and the transverse ligament.

Histological preparations were made of the ligament near its junction with the femur. All ligaments contained vessels but there was considerable variation in the number and size of the vessels found.

Vascularity of 114 Ligamenta Teres in Man

Number of ligaments	Size of Vessels
4	Relatively avascular
8	Many small vessels
16	Sclerosed partially or wholly
36	.2 to .4 mm. in diameter
50	.4 to 1.5 mm. in diameter

The above measurements were made with the aid of an ocular micrometer and camera lucida drawings. The location of the vessels inside the ligament is not at all constant. Vessels may be on the dorsal surface or near the center of the ligament. They may be surrounded by loose areolar connective tissue and fat or lie between heavy bundles of ligamentous tissue.

Observations have been made on four complete fractures of the neck of the femur in cadavera. The only source of nutrition to the proximal fragment in each instance was through the ligamentum teres. In two instances the gross and microscopic anatomy was greatly altered by an extensive inflammation but the condition of the proximal fragment was the same as that of the distal. In the third case the fragments were held together by loose adhesions and the ligament contained a macroscopic sized vessel. That this vessel was patent and functional is shown by the fact that injection material entered it when the body was being prepared for laboratory use. The fourth patient lived three years after the fracture and a rather firm fibrous union had taken place. The largest vessel in the ligament was one and five-tenths millimeters in diameter. Serial sec-

tions of the distal portion of the ligament and the head of the femur showed that the vessels in the ligament entered the pores in the fovea capitis and divided into smaller branches inside the cancellous tissue of the head. Serial sections of the head and ligamentum teres in 20 fetal specimens (seventh month to term) showed that the vessels are present long before the seventh month. As soon as the vessels enter the head they branch and continue to penetrate into the substance of the bone.

Metaphyseal Arteries: This source of blood supply was studied by gross examination of several hundred specimens from the dissecting room. Metaphyseal vessels arise from the medial and lateral circumflex arteries which branch from the profunda or femoral direct. By far the larger number arise from the medial circumflex and pass to the dorsal side of the femur along the intertrochanteric line to gain its superior aspect. A number of vessels arise from the main trunk and pierce the capsule and either enter the bone at this level or run up the neck supported by the retinacula, synovial membrane and connective tissue surrounding the bone. Most of these metaphyseal vessels enter the bone near the junction of the articular cartilage. The larger number are found on the superior aspect of the neck but they may occur in any location. Sometimes they are held away from the bone by the retinacula and in other instances they lie against or in a depression along the femur neck. Serial sections of thirty adult femoral heads and proximal portion of the neck show that all these vessels branch so as to supply the whole head. They are present in the same serial sections containing the vascular supply through the ligamentum teres. The serial sections of the 20 femoral heads from fetuses (referred to above) also show metaphyseal vessels. A union is present between the vessels of the two systems in adult life but such a union had not occurred in the stages available to us for study. The union probably occurs some time after birth.

These metaphyseal vessels probably contribute a larger amount of blood to the femur than the vessels in the round ligament, or the nutrient artery, or the periosteal vessels. So far as is known any of these sources of nutrition is quite adequate unless disturbed by some abnormal factor.

Fractures of the Femur: Fractures of the femur are not common until after 40—the time when active exercise is usually decreased and excess weight often added. These factors plus changes in the density of bone as well as sclerosis of vessels are all to be considered in connection with the amount of the circulation. This study does not indicate that the entire femoral head is nourished by vessels in the round ligament but that they are capable of doing so in almost all instances unless sclerosed or disturbed in function. It has been observed at the time of operation for congenital dislocation of the hip that in some cases where the x-ray reveals an infantile femoral head, only small microscopic vessels exist in the thin stretched-out ligament. In other instances, even when the head was out of the acetabulum, still the ligaments contained fairly large vessels and the head showed good shape and size. The metaphyseal vessels may theoretically be spared following fractures of the neck of the femur, but if not broken at the time of the injury they are likely to become so as a result of manipulation. In severe injuries producing fracture or dislocation, the vessels in the ligament may be completely obliterated by direct tear or torsion. If so, necrosis results unless the proximal fragment is impacted or some metaphyseal vessels remain. Any operative procedure which destroys or impairs the vascularity of the ligamentum teres should be avoided because if the metaphyseal vessels are broken the proximal fragment is dependent entirely upon the ligament for nutrition.

Summary: 1. The ligamentum teres is a true ligament and furnishes a significant nutrition to the proximal end of the femur in

almost all individuals except when sclerosed or injured.

2. A large source of nutrition to the femur head is derived from the numerous metaphyseal vessels which enter the neck and head of the femur.

3. Both these sources of blood supply begin in early fetal life. The anastomosis is of the capillary type. It persists throughout life unless disturbed.

4. Anatomical study and clinical experience support the conviction that the vessels in the ligamentum teres should be spared in all operative procedures because it is the only source of nutrition to the proximal fragment following complete fracture of the neck of the femur.

REFERENCES

1. Chandler, Simon B. and Philip H. Kreuscher: *A Study of the Blood Supply of the Ligamentum Teres and its Relation to the Circulation of the Head of the Femur.* Jour. Bone and Joint Surgery, Vol. 14, pp. 834-846, 1932.

2. Kolodny, A.: *The Architecture and the Blood Supply of the Head and Neck of the Femur and Their Importance in the Pathology of Fractures of the Neck.* Jour. Bone and Joint Surgery, VII, 575, July, 1925.

3. Langer, K.: *Uber des Gefasssystem der Rohrenknochen.* Denkschr. d. Kaiserlichen Akad. d. Wissensch., XXXVI, 1, 1876.

4. Schmorl, G.: *Die Pathologische Anatomie der Schenkelhalsfrakturen.* Munchener Med. Wchnschr., LXXI, 1381, 1924.

PULMONARY SYMPTOMS RESULTING FROM ULCERATION OF HILAR LYMPH NODES INTO A BRONCHUS

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In many patients who suffer from pulmonary symptoms, ordinary methods of examination fail to reveal the cause of the complaints. Lesions may be demonstrable in many instances but they cannot be diagnosed accurately and in other instances cough, fever, hemoptysis and thoracic pain may be present without evidence of thoracic disease on physical or röentgenoscopic examination. Although it is true that tuberculosis is the most frequent cause of chronic pulmonary infection, many patients have been subjected to needless expense and inconvenience when tuberculosis was diagnosed erroneously.

Unless a chronic pulmonary lesion is associated with the organisms of tuberculosis in the sputum, direct visualization of the tracheobronchial tree is indicated when there is uncertainty as to the character of the disease. Although röentgenoscopic study of the lungs following the injection of iodized oil into the tracheobronchial tree may reveal obstruction or dilatation of the bronchi, it rarely is possible to determine with accuracy the cause of these changes by this method of examination alone. One of the lesions which requires bronchoscopy for diagnosis is that which is produced by the ulceration of hilar lymph nodes into a bronchus. The underlying cause of this lesion is usually tuberculosis with or without calcification of the gland which produces erosion of the wall of the bronchus.

Many cases of pulmonary calculi have been recorded and on numerous occasions stones have been removed from a bronchus at bronchoscopic examination. When these calcified masses break through the bronchial wall they either pass into the lumen of the bronchus distal to the point of emergence, giving rise to symptoms which are associated with a foreign body that has been aspirated through the larynx, or they may be covered with tissue of an inflammatory character and resemble neoplasm in the bronchus. Such stones are encountered usually in the main bronchus or in a bronchus in a lower lobe of the lung. One case of calculus in the bronchus

to the upper lobe of the right lung has been recorded.

Enlarged nodes resulting from lymphoblastoma may produce ulceration of the wall of the bronchus with spontaneous expulsion of a portion of the node. In other cases the diagnosis of this disease has been made by removal of a portion of the gland which was seen at bronchoscopic examination to be protruding into the lumen of the bronchus.

Tuberculous nodes without calcification may protrude through the wall of a bronchus and manifest themselves as masses of inflammatory tissue. These masses are always located on the mesial wall of a main bronchus and bleed readily when traumatized. Many of them are associated with pulmonary hemorrhage. We have not been able to prove the presence of tuberculous disease in these lesions by examination of tissue or secretion during life, but in two instances tuberculosis of the hilar nodes was demonstrated at postmortem examination.

The report of two patients who were observed recently will serve to illustrate the lesions which have been described.

Case 1: An obese colored woman thirty-seven years of age was admitted to St. Philip's Hospital, August 2, 1936, because of profuse hemoptysis. Two months previously a hacking cough had developed, associated with expectoration of brown colored sputum. Examination in the out-patient department failed to reveal evidence of pulmonary disease at that time. The cough continued and the sputum was blood stained on many occasions. On July 28th, a coughing spell was followed by hemorrhage, at which time it was estimated that a pint of blood was expectorated. On August 1st, bleeding recurred and continued for six hours, at which time it was thought that the loss of blood amounted to almost a quart.

General examination revealed nothing abnormal and röentgenoscopic study of the thorax failed to demonstrate a lesion. The hemoglobin was 79 per cent and the erythrocyte count was four million. The sputum was examined for bacilli of tuberculosis on several occasions with negative results, and the other laboratory studies disclosed nothing abnormal. The temperature was normal during the period of hospitalization.

The patient was dismissed from the hospital August 14th, but was readmitted September 10th because of recurrence of bleeding from the lung, beginning September 5th. For three days after readmission to the hospital bleeding continued in amounts varying from one to four ounces a day. Complete study at that time revealed nothing of significance and as the patient seemed quite well she was permitted to return to her home October 1st.

She was admitted to the hospital again January 15, 1937, because of recurrence of pulmonary hemorrhage. All examinations were negative again. Although bleeding had ceased before all the clinical studies had been made, it was decided that direct visualization of the tracheobronchial tree might reveal a lesion. (Bronchoscopy is usually preferable while hemorrhage is in progress because then the bleeding point is more readily distinguishable.) Upon bronchoscoping the patient visualization of the mesial wall of the right main bronchus showed extensive scarring with anteroposterior angulation of the bronchial lumen. When the bronchoscope was introduced into this area a dark mass resembling an anthracotic lymph node was seen to be protruding into the lumen of the bronchus. Examination of tissue which was removed for microscopic study confirmed this opinion. Although bleeding was not observed at the time of the bronchoscopic study, it seems reasonable to assume that the lesion which was demonstrated was responsible for the hemorrhages which had occurred previously.

Case 2: A white man forty-one years of age was referred by Dr. M. D. Bonner of Greensboro, North Carolina, for examination February 18, 1937.

Nineteen years previously the patient had had a small pulmonary hemorrhage but since

then he had remained well until the latter part of 1934, at which time he began to notice an indefinite throbbing sensation in the left side of the thorax. In November, 1936, fever and cough developed with purulent sputum which continued rather acutely for about five days, after which he continued to have a slight elevation in temperature, wheezing, and some blood in the sputum for eight weeks. The sputum had been examined on numerous occasions for bacilli of tuberculosis but none had been found. Bronchoscopic examination elsewhere had revealed a lesion in the left main bronchus and examination of tissue which was removed for microscopic study showed only inflammatory changes.

General physical examination and röentgenoscopic examination of the thorax disclosed nothing abnormal. Bronchoscopic examination revealed an area of scarring on the mesial wall of the left main bronchus with small projections of tissue which bled freely following slight irritation. It was concluded that the lesion represented the ulceration of a hilar lymph node into the bronchus and that tuberculosis was the etiologic factor. Tissue was not removed for microscopic study. The patient was advised to have deep radiotherapy.

BIBLIOGRAPHY

1. Vinson, Porter P.: *Foreign Bodies in the Bronchus of Intrapulmonary Origin; Report of a Case.* Surg., Gynec., & Obst., 45: 548-549 (Oct.) 1927.

2. Vinson, Porter P., and Bumpus, L. D.: *Pulmonary Lithiasis.* Med. Clin. N. Amer., 15: 79-85 (July) 1931.

3. Vinson, Porter P., and Maytum, C. K.: *Pulmonary Calculus Simulating Primary Bronchial Carcinoma; Report of a Case.* Med. Clin. N. Amer., 15: 1551-1553 (May) 1932.

4. Vinson, Porter P., and Lemon, W. S.: *Unusual Types of Pulmonary Tuberculosis.* Med. Clin. N. Amer., 18: 459-469 (Sept.) 1934.

TUBERCULIN TESTING AND ITS RELATION TO A PUBLIC HEALTH PROGRAM IN THE CONTROL OF TUBERCULOSIS*

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BEFORE saying anything directly related to my subject, which is the tuberculin test and its value in a public health program in the control of tuberculosis, I think it well that a few fundamental facts be stated relative to the chemical and physiopathological basis of the test. In the beginning one should have a clear conception of what tuberculins are, how they are used, and the purpose for which they may be used.

Tuberculins contain the products of tubercle bacilli, or their ground up bodies, the latter class being practically vaccines. The tubercle bacilli divided into fractional components is found to be quite complex. It consists of fats or lipoids, proteins, polysaccharides, waxes, phosphatides, et cetera. These individual fractional components each play a distinct and separate part in the pathology of the disease as will be referred to later. At the present time we have a number of tuberculins and tuberculin tests. A few will be mentioned as a matter of academic interest.

Tuberculin was the name given by Koch to a filtered and concentrated glycerol broth culture of tubercle bacilli. This is now known as old tuberculin (T. A.). Later another tuberculin, (T. O.) was prepared by making a watery extract of tubercle bacilli, thoroughly disintegrated in an agate mill. T. R. or tuberculin residue is prepared from the solid residue obtained in preparing T. O. Another tuberculin (B. E.) is a very fine suspension of ground bacilli in fifty per cent glycerol.

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More recently we have a purified protein derivative, P. P. D. These tuberculins have been used diagnostically, therapeutically, and to a very limited extent prognostically.

As we have a number of tuberculins, we also have a number of tuberculin tests.

1. Calmette's ophthalmoreaction is performed by instilling one or two drops of 0.5 per cent purified old tuberculin into the conjunctival sac. If tuberculosis exists anywhere in the body, a conjunctivitis is induced within twelve to twenty-four hours.

2. Moro's reaction is performed by rubbing into the skin of the abdomen a 50 per cent ointment of old tuberculin in lanolin. Dermatitis which appears in twenty-four to forty-eight hours indicates a positive reaction.

3. Von Pirquet's reaction is the most widely used of the tuberculin tests. Two small drops of old tuberculin are placed on the skin of the front of the forearm, about two inches apart, and the skin is slightly scarified, first at a point midway between them, and then through each of the two drops. A positive reaction is shown by the appearance in twenty-four to forty-eight hours of a papule with a red areola, which contrasts markedly with the small red spot left by the control scarification.

4. The Mantoux intracutaneous test is a more accurate skin test than the others previously mentioned, and is performed by giving intracutaneously 0.1 cc. of a 1:1000 tuberculin, with or without a control of 0.5 per cent phenol. The reaction is read at twenty-four, forty-eight, and seventy-two hours. No reaction is considered positive unless the area of hyperemia around the tuberculin is five mm. greater than the control.

The words phthisis and consumption were employed by Hippocrates and they designated what the physician saw. Later when it was known that this disease might exist for several years without clinical manifestations, the word tuberculosis was coined. Until recently physicians were unwilling to make a diagnosis without definite clinical manifestations or laboratory findings. Many seem to be yet unwilling. Depending upon these findings 80 to 85 per cent of the cases were not diagnosed before the beginning of a moderate to a far advanced stage.

It is now known that the first attack of the tubercle bacilli is on the neutrophil, since that is the cell which first phagocytizes the bacillus. The polysaccharide content of the bacillus is toxic to the neutrophil. This is a single cell and the result is the death of the neutrophil. Next in the line of second defense is the monocyte, which surrounds the ill and dead neutrophil and ingests it along with the tubercle bacilli. There is nothing in the chemistry of the tubercle bacilli that will kill the monocytes. However, the phosphatide content of the bacilli may, or apparently does, convert them into epitheloid cells. Later lymphocytes migrate to the site of the developing tubercle. A differential leucocyte count of the peripheral blood at this time may be of significant value. In the absence of other diseases which may cause them, one would expect to find an increase of neutrophils followed by an increase in monocytes, and later by an increase in lymphocytes, the lukemoid picture, as designated by Krumbhaar.

The waxes of the tubercle bacilli stimulate the proliferation of fibroblasts, while their acetone soluble fats cause proliferation of all local connective tissue cells, which results in laying down a fibrous capsule around the tubercle. Lime salts are deposited in the caseous center and the capsule of the tubercle.

After a period of several weeks of tubercle formation enough tuberculoprotein has been liberated by the disintegrated tubercle bacilli to make the tissues sensitive to this substance. Up to this time there is no way of knowing that tubercle bacilli have entered the body. There are no symptoms, no abnormal physical findings, x-rays give no suspicion and the tuberculin test is negative.

After the tissues have become sensitized a most valuable diagnostic aid is available, in that tuberculin or tuberculoprotein when used intracutaneously or by a few other well known procedures will give a characteristic reaction at the site of application or injection.

The protein fraction of the bacilli is responsible for sensitization.

At this point it is appropriate to differentiate between first infection, childhood tuberculosis and adult tuberculosis, or reinfection. It is important to distinguish between infection and disease. The former simply signifies that infectious bacilli have entered the body, while the latter denotes that the infection has reached a pathological degree confirmed by clinical, laboratory or röentgenological findings. The first infection may remain undiscovered or it may progress to a state of clinical recognition which we call childhood tuberculosis, either pulmonary or extrapulmonary in location. Few of us reach adult life without infection.

It is not the purpose of this paper to discuss the theory of immunity in tuberculosis, and the question as to whether or not an adult who has been mildly infected in childhood is less susceptible to tuberculosis is yet controversial. No doubt, it would depend largely upon two factors, the number of bacilli and the constancy of exposure in view of the fact that the infected individual is sensitized, or rather the tissues of the individual are sensitized to tubercle bacilli. This is substantiated by the period of immunological diminished resistance called the "negative phase." Adult tuberculosis then is simply infection superimposed upon an allergic state.

From a study of 3,765 children between the ages of six and fifteen in a large hospital of Paris under the observation of Professor Nobecourt, the following was found on completion of the study:

The percentage of positive skin reactions is already high during the seventh year. It increases but little between the ages of seven and ten years, but markedly between the ages of ten and fifteen years. During the seventh year it is more marked in girls than boys. Between the seventh and tenth year it is about the same in both sexes. Tuberculous infection appears to occur especially often before the age of seven years and between the ages of ten and fifteen years. Before the age of seven it occurs more frequently in girls while between the ages of seven and ten the reverse is true. From ten to fifteen years the incidence is about the same.

The percentage of active tuberculous foci is relatively low during the seventh year, being higher in girls than in boys. It increases little from the seventh to tenth year in boys and but little to the thirteenth year in girls. Definite increases occur in boys during the eleventh and twelfth years, whereas in girls the increase is noted during the fourteenth and fifteenth years.

It is evident that age and sex have a distinct influence on the percentage of positive skin reactions to tuberculin and of active tuberculous foci. This influence is due to endogenous and exogenous factors of a complicated nature.

Tuberculosis being a communicable disease of particular importance to the public health, it is imperative that measures be taken to control the spread of the disease. It affects family groups, particularly children, and is one of the principal causes of death in young adults. At the most conservative estimation for each death due to tuberculosis there are five active cases in the community with three direct contacts for each active case. One of the most difficult problems in a tuberculosis control program is case finding and it is in this capacity that tuberculin testing is of great assistance if properly done and proper deductions made from the findings.

A few general conclusions may be drawn in advance: First, the incidence of tuberculous infection is found to be far greater in children from homes in which there has been a case of tuberculosis and more especially if the case had a positive sputum for tubercle bacilli. Second, the incidence of infection rises in direct ratio to the increase in age. Third, there is no essential relation between underweight and tuberculous infection and childhood forms of tuberculosis. Fourth, there is at this time a lack of uniformity that will place the test on a practical basis.

A positive tuberculin test signifies one of three things—that tuberculous infection has taken place; that active foci of tuberculosis exist in the individual, and that the individual has been exposed to an open case of tuberculosis. The first, that tuberculosis infection has taken place needs not to be further verified, but to prove that active foci of infection exists or that the individual is being, or has been exposed to an open case requires further study and investigation. The greatest number of individuals that may be economically reached by public health workers is naturally in our schools. To give and read a great number of tuberculin tests is nothing more than a waste of time and money. Not more than one out of every fifty positive reactors will be found to have evidence of active disease. Nevertheless, the tuberculin test is of little value unless combined with x-ray studies of the positive reactors followed by tests and x-ray studies of all members of the family from which the positive reactor comes. It is more important that adult family members be investigated because it is usually here one finds the open active case with positive sputum capable of spreading the disease.

Conclusion: 1. A very high incidence of tuberculous infection is found before the age of seven years.

2. The highest incidence of tuberculous foci of infection is found between the ages of eleven and twelve in boys and between the ages of fourteen and fifteen in girls.

3. The tuberculin test may be of great value in early diagnosis and case finding if properly done and further studies made.

4. All individuals showing a positive tuberculin test should be x-rayed and an epidemilogical study made of their source of infection.

5. The tuberculin test may be of great diagnostic aid in infants and very young children without supplemented x-ray study.

BIBLIOGRAPHY

1. Myers, Diehl, and Trach: *Development of Tuberculosis in Adult Life.* Archives of Internal Medicine, Jan., 1937.

2. Feldman and Stasney: *Lukemoid Response to Tuberculous Rabbits to Administration of Tuberculin.* American Journal of the Medical Sciences, January, 1937.

3. Pottenger: *Proliferative and Exudative Tuberculosis with Reference to the Relationship to Various Fractions Derived From the Tubercle Bacillus.* Archives of Internal Medicine, August, 1934.

4. Hiscock: *Community Health Organization.* The Commonwealth Fund, 1932.

5. Bigger: Handbook of Bacteriology.

6. Todd and Sanford: *Clinical Diagnosis by Laboratory Methods.* W. B. Saunders Company, 1930.

CAUSE OF ANEMIA

There are two common kinds of anemia that bother mankind—iron deficiency anemia and pernicious anemia, according to Dr. Allen S. Johnson who writes of this subject in "Anemia—Its Causes and Treatment" appearing in the April *Hygeia.*

If iron in the diet is deficient for the needs of the individual, sufficient hemoglobin cannot be manufactured by the bone marrow, liver or spleen—sites of red corpuscle production. Hemoglobin carries oxygen from the lungs to the various tissues of the body, and it is contained in the red corpuscles of the blood. Proteins, especially those which are of animal origin, are essential to the building of the hemoglobin molecule.

It appears prudent to be liberal in the amount of iron-containing foods eaten; scurvy-preventing vitamin C, which is found in citrus fruits, is essential to normal red cell production, and the secretion of the thyroid gland also plays some part, though this is not fully understood. Growing children, pregnant or menstruating women and any one else on whose iron reserves unusual demands are being made may need from fifteen to twenty times as much iron as does the normal person.

In pernicious anemia the "liver fraction" is reduced or absent. Normal gastric juice contains a so-called intrinsic factor which normally acts on an extrinsic dietary factor such as beef muscle, yeast and various other substances to form the final red cell maturing factor. This final product is then absorbed from the digestive tract and stored in the liver, whence it is supplied to the bone marrow as needed.

In pernicious anemia the supply of iron is adequate, but this intrinsic stomach factor is lacking. The individual is therefore unable to manufacture his own liver fraction. The bone marrow tries desperately to supply new red cells to replace those that have worn out, but the final product is an immature red cell, ill adapted to the needs of the body.

CANCER OF THE STOMACH*

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It was estimated in 1935 that 38,000 persons in the United States die of cancer of the stomach each year. According to Eusterman,[1] one-third of all cancer in men and one-fifth in women occurs in the stomach. Of these about 95 per cent are between 40 and 69 years of age, and the average symptom duration, before diagnosis, is about eleven months.

In regard to age, there are quite a few cases of cancer of the stomach which are less than forty years of age. As to race, apparently no race is exempt. Some have expressed the belief that the mortality rate among negroes is on the increase. Others have felt that the incidence of carcinoma among negroes is on the increase. Still others have felt that the incidence of carcinoma among negroes is higher than among the whites. Rehfuss[2] stated that carcinoma of the stomach is comparatively unknown in Egypt, also relatively rare in Persia and Turkey. Schereschewsky[3] expressed the belief that cancer incidence is low for the inhabitants of southern Europe. Some people have held that the incidence of cancer of the stomach is greater in the lower social levels.

Unfortunately, the familiar clinical picture of the disease is the advanced stage. At times it seems a little difficult to get people to believe and realize that cancer of the stomach may exist with little or no indigestion, loss of weight, color or of appetite and without anacidity or palpable epigastric tumor.

Progress in earlier recognition has been retarded by many factors. The middle-aged individual too often puts off, from time to time, seeking competent medical advice for digestive disturbances. The doctor may, at times disregard the gravity of such a disorder for the reason that the symptoms of early cancer of the stomach are those common to many other diseases. The symptoms may even be quite bizarre at times. The onset is most insidious, and does not come on with the clear cut definiteness as in the case of ulcer.

Harris[4] has pointed out, the patient in the age limits mentioned often develops some slight stomach symptoms and asks his physician to prescribe a tonic. Later on he decides there is something more positively wrong and proceeds to take more vigorous treatment. In such wise delay, that later means death, often results. He also calls attention to early symptoms of cancer such as a beginning "stomach consciousness", slight loss of weight associated with fatigability without obvious cause and anemia of unexplainable origin.

By the failure to recognize the true nature of things the patient is often deprived of the opportunity for cure or for added years of life and comfort that might be accorded by a timely operation. One of the favorite sayings of the late Eugene Doyen could well be repeated here: "Time is the patient's life." The internist and surgeon realized long ago that early diagnosis is essential to improvement in vital statistics. Such improvement can be brought about by (1) Physical examination at stated intervals by a competent physician; (2) Attaching proper significance to unexplainable or persistent indigestion which may have begun without apparent cause either gradually or abruptly after the fourth decade of life; (3) Seeking medical advice promptly under the circumstances just mentioned; (4) Employment for detection of carcinoma in its earliest stages or obscure forms, of all essential laboratory methods of diagnosis x-ray offers more than all the others combined.

*Read before the Surgical Section, West Virginia State Medical Association, Fairmont, W. Va., June 8, 1936.

The early detection of carcinoma in its various forms has been made possible chiefly by contributions of the surgical pathologist and x-ray man; by information gained from the surgical amphitheater, also by the diagnostic and therapeutic teamwork of the internist and surgeon. In spite of all this, however, the percentage of operable cases remains low. At the Mayo Clinic only 25 per cent of their cancer of the stomach patients have been found suitable for operation. The symptoms of cancer of the stomach are determined by the site and extension of the lesion, especially by the degree of motor impairment caused by the growth. Naturally a lesion in the region of the pylorus gives rise to comparatively early symptoms and the clinical course of a benign ulcer, and may respond favorably to medical treatment for that condition.

Only about one out of five stomach carcinomas seen is resectable. It is obvious that the patient usually does not consult a physician until the growth is so advanced that the symptoms are marked and the diagnosis is easy. It is important to emphasize the symptomatology of those lesions which are not obviously carcinomas, such as small ulcers, tumors or infiltrating growths that cannot be palpated through the abdominal wall.

Cancer of the stomach as emphasized by Brooks[5] has no early symptoms of its own, because cancer *per se* does not produce pain, fever, malnutrition, anemia or necessarily any other departure from a sense of good health. There are a number of types of so-called inaugural symptoms. Perhaps the most frequent is the vague indigestion of recent onset, likewise the gradual downhill course of the patient of advanced years. Quite a few patients say they have, as their first symptoms, a sensation of an empty stomach one or two hours after eating, a hunger-like distress that is indistinguishable from that of a benign ulcer. This distress is epigastric in situation and is frequently relieved by taking food or alkalies. In other cases the ease obtained by taking food is not quite so striking but nevertheless the syndrome simulates that of ulcer. At times the distress becomes more marked and relief more difficult to obtain. Also the symptoms of ulcer are replaced by distress immediately after taking food. This happens after the growth has become well established. In some cases, there is a typical history of ulcer extending over a period of years. In such cases an ulcer could be assumed to be the precursor of the carcinoma.

Lahey[6] has pointed out that more and more gastroenterologists and surgeons are coming to believe that the percentage of malignant degeneration (if such a condition really exists or the lesion is a malignancy from the start which has ulcerated) is quite low, from five to seven per cent. The entire question of the percentage of malignant degeneration of gastric ulcer is open to great possible error.

Due to the fact that the stomach has a rich supply of blood vessels and lymphatics and is constantly subjected to powerful peristaltic waves, the conditions are quite favorable for rapid extension and metastases of malignant lesions. He says that in order to accomplish improvement in regard to early diagnosis the patient must be submitted, if over thirty years of age, to x-ray and fluoroscopic examination of the stomach whenever digestive symptoms persist beyond one week of time rather than resort to indigestion remedies.

Naturally carcinoma can develop independently of chronic ulcer. At times there is a history of chronic indigestion of indefinite character with recent change of symptoms. In other cases there are no definite symptoms of indigestion but the patients gradually lose weight and strength until they present the clinical picture of malignancy without symptoms pointing directly to the stomach as the site of the trouble. Some people consider themselves entirely well until there is evidence of beginning pyloric obstruction. In other cases severe anemia may be the outstanding sign. There is danger in this type that a diagnosis of pernicious anemia may be made without benefit of a test meal or x-ray examination of the stomach. In a small number of cases there are no symptoms until

metastasis occurs. Occasionally, in such cases enlargement of the abdomen from the accumulation of fluid is the first evidence of the disease. In other cases, deep jaundice and severe pain in the right upper quadrant of the abdomen may be the first definite indication of trouble.

Horsley[7] and others are of the opinion that a negative x-ray finding in a case of suspected gastric carcinoma does not exclude early malignancy and insist that such cases have the benefit of an abdominal exploration.

Small lesions near the outlet of the stomach in the absence of achlorhydria and pyloric obstruction may be diagnosed as duodenal ulcers. One of the most positive diagnostic symptoms is the constant finding of occult blood in the stools. An ulcer niche 2.5 cm. or more in diameter can ordinarily be assumed to be indicative of cancer.

Stomach carcinoma must be differentiated from such conditions as gastric ulcer, benign tumor, chronic gastritis, gastric syphilis, gastric tuberculosis and phytobezoar. The various types of gastric sarcoma, lymphosarcoma, malignant polyp, etc., are regarded in the same light, that is clinically as carcinoma.

Cancer of the stomach must also be differentiated from such conditions as cancer of the pancreas, gall-bladder and colon. For instance, filling defects of the stomach or duodenum may be caused by carcinoma of the pancreas. Likewise, we must endeavor to determine between carcinoma of the stomach and inflammatory lesions of the gall-bladder, pancreas, liver and spleen. Routine x-ray examinations of the stomach and gall-bladder have been most helpful along these lines. Some other conditions simulating cancer of the stomach may be chronic fibroid pulmonary tuberculosis, pernicious anemias, chronic glomerular or diffuse nephritis.

Benign tumors of the stomach constitute a negligible percentage of all gastric tumors. Gastric syphilis is the lesion that most frequently simulates gastric carcinoma. Its incidence is much greater than that of benign tumor. Most of the stomach disturbances of gastric syphilis are attributable not to syphilitic stomach lesions but rather to such conditions as neurosyphilis, functional disorders, gastritis, duodenal ulcer and gastric carcinoma. Differentiation is difficult. The average age of patients who have syphilis of the stomach is thirty-nine and a half years. Achlorhydria is more apt to be present than in carcinoma. From the x-ray standpoint syphilis may easily be taken for carcinoma.

Because so many patients having carcinoma of the stomach come in late for operation the end results are poor. The operative mortality has fluctuated from eight to twelve per cent when the operation has been done by a surgeon well trained in that particular line of work.

In the majority of operations for carcinoma of the stomach a resection by the Billroth II type or some of its modifications is the one most generally applicable. Much better drainage is secured than by gastroenterostomy, also there is much less likelihood of the gastric stoma being closed or encroached upon by recurrence of the malignant lesion. As a palliative procedure the so-called exclusion type of operation is often advisable. In this the sound part of the stomach is divided from the malignant portion. The malignant part, which has been found to be inoperable, is closed off and gastrojejunostomy end to side carried out with the normal portion. This type of procedure, generally speaking, gives a much more satisfactory result than gastroenterostomy in such cases. However at times gastroenterostomy is probably definitely indicated. Palliative operations such as indicated above cannot only save patients from the great worry and annoyance of obstructive vomiting, but also keep them from dying of starvation.

I herewith submit several recent stomach cases, some of which illustrate delay in regard to cancer diagnosis:

Case 1: J. B., white male, age fifty-one, admitted to the Charleston General Hospital, June 28, 1935, complaining of pain in the stomach.

History: Stated he has suffered with his stomach for over a period of two years. Does not remember change in symptoms of indigestion or other stomach trouble prior to that time. Three years ago he had a hemorrhage and vomited blood. At that time his trouble was diagnosed as a stomach ulcer. He was put on a diet and gained in weight. His diet was gradually increased and he felt perfectly well. States that he began feeling weak during the month of February this year, but that otherwise had no stomach trouble of any sort, at any time. No pain, no indigestion, no gas. He thought at this time possibly some bad teeth might be affecting his health, and had a number extracted. He again felt better, gained in weight and decided that there was nothing seriously wrong with him. He had no more vomiting of blood and no evidence of blood in the stools. He felt that he could take food without much, if any, discomfort. However, he came to the hospital on October 3, 1935 and had an examination.

Physical Examination: The patient is an undernourished, pale and sickly looking male but feels comfortable and says he is without pain. Physical findings show the heart sounds to be weak and poor, low tension pulse, and a mass to the right of the epigastrium about the size of a large lemon.

Laboratory Findings: Total acidity of fifteen degrees for one hour. RBC 3,100,000 and hemoglobin 36.

X-ray Findings: Extensive carcinoma, involving the proximal half of the stomach. Inoperable. There is also a deformity of the duodenum secondary to the old duodenal ulcer.

X-ray Conclusion: Probable cancer involving the cardiac end of the stomach. Inoperable.

Case 2: T. K., white, female, age forty-four, admitted to the hospital April 25, 1936, complaining of loss of appetite, inability to swallow, weakness, tires easily and has frequent eructations of gas.

History: Patient denies having had any illness at all, until a few weeks ago, when she began to eruct gas, lose weight and become weak. Later she had no appetite for food. She also says that water gives her a peculiar sensation when she is swallowing it. She has done her own housework until the last week when she had to quit. Has no indigestion and no nausea. For the past few days she has had some discomfort at the pit of the stomach which becomes worse after she takes food. Has not been sick and has not taken any medicine since childhood.

Examination: Showed an emaciated woman with physical findings essentially negative with the exception of systolic murmur of the heart.

Laboratory Findings: Hemoglobin 47.7 per cent, Kline negative, RBC 3,600,000.

X-ray Examination: Showed that barium meal barely trickled through the stomach showing that obstruction will probably be complete within a short time.

Impression: Carcinoma apparently involving the entire stomach including the cardia and the lower end of the esophagus. Inoperable.

Case 3: E. M., white female, age fifty-four years, admitted to the Charleston General Hospital, February 8, 1936, complaining of vomiting, weakness, loss of weight and pain in the epigastrium and chest.

History: Was quite well until about one year ago, at which time she weighed one hundred and eighty-five pounds. Since that time, she has had gradually increasing weakness, a sensation of burning pain and discomfort in the epigastrium, ranging upward under the left costal margin, up left chest and across mid-chest on both sides. Epigastric distress has no relation to any particular kind of food. All foods cause discomfort. Gaseous discomfort comes on from one to three hours after meals. At the onset of her illness about one year ago she vomited occasionally up until about three months ago when the symptoms started again, and have been quite per-

sistent ever since. Soda water gives some relief. Vomits dark brown material at times. No jaundice. Has lost forty pounds in weight the last year. Is very weak, constipated, uses enemas and has had several tarry stools.

Physical Examination: Looks emaciated, skin is quite flabby and dry. The temperature is elevated, marked tenderness in the epigastrium to the left of the midline and under the left costal margins.

Laboratory Findings: Kline test negative, hemoglobin 84 per cent, RBC 4,600,000.

X-ray Report: Extensive inoperable carcinoma, ulcerated type, involving the lesser curvature and posterior walls of the middle and a portion of the distal third of the stomach. Perforation in the region of the pancreas. Extensive infiltration with adherent fixation about the perforation, beginning obstruction of the distal third of the stomach.

Case 4: L. W., colored female, age thirty-seven years, admitted to the Charleston General Hospital, September 2, 1935, readmitted October 16, 1935 for operation.

History: Patient had been in the hospital two weeks previously, suffering from various abdominal complaints. For the past five years the patient has had a dull epigastric ache of gradually increasing severity after eating. She has not noticed any coffee ground vomiting. Has had loss of appetite and progressively increasing nausea, weakness and constipation.

Examination: Colored female in no pain. Moderate tenderness in epigastrium with palpation of the firm tumor mass which cannot be definitely outlined.

Laboratory Findings: Hemoglobin 81 per cent, RBC 4,250,000. Total acidity 10 per cent, HCL negative, globulin test negative, Kline test negative.

X-ray Report: "Area of constriction at the junction of the middle and distal thirds of the stomach, with thickening, but no definite ulceration of the stomach. This suggests syphilis of the stomach; however the patient should have antiluetic therapy. If the lesion does not respond after a brief period it should be treated as a scirrhous carcinoma."

Patient was given six doses of neosalvarsan without improvement. October 19, 1935, a gastric resection was performed. A carcinomatous mass involving the lower portion of the greater curvature of the stomach was found. Gall-bladder was found to be filled with stones, and the uterus was the seat of multiple fibroids. Resection was done according to the posterior Polya method. The operation of cholecystectomy was also performed.

Pathological Report: "Carcinoma of the stomach—grade four."

Her physician reported, date of December 10, 1936 that her general condition was very satisfactory. States that she eats about everything she wants and that she is in good physical condition.

X-ray Report: A second x-ray examination was made July 2, 1936 and reported by Dr. Peterson as follows: "Postoperative resection of the distal half of the stomach. There is no evidence of a recurrence of the malignancy. The stoma is functioning normally."

Case 5: W. E., white male, admitted to the hospital May 18, 1936 complaining of nausea and vomiting, indigestion, constipation, loss of weight, soreness across the upper abdomen.

History: Eight months ago, patient began having trouble with his stomach, in that he could not eat solid food. He has felt that there was a band around his intestines as food could not pass. If he eats solid food he is troubled with a great deal of distention. He is constipated. Patient has a feeling of soreness and fullness in his epigastrium. He vomits dark colored material occasionally, however his appetite is good.

Family History: Father died of stomach trouble at fifty-two years of age. Mother died of cancer of the uterus at forty-six. One sister died of cancer of the stomach.

Physical Examination: Shows a palpable mass in the right upper quadrant, tenderness

in the epigastrium. Impression: Cancer of the stomach with food retention.

Laboratory Findings: Blood pressure 130/90. Hemoglobin 69 per cent. Pulse 62.

X-ray Examination: Stomach shows polypoid carcinoma involving the distal half of the stomach. There is nearly complete obstruction with food retention. So far as the position is concerned the lesion is operable, however, it is apparently fixed.

X-ray Examination: Chest shows thickening of the pleura with a small amount of fluid in each costophrenic angle, slightly greater on the left. The patient was admitted to the hospital on May 25.

Exploratory operation showed the patient to be the victim of an inoperable stomach carcinoma. There were extensive metastases along the aorta and elsewhere.

Case 6: J. K., white male, admitted to the hospital May 11, 1936, complaining of pain in the upper gastric region for the last two months.

History: At first, pain in the upper gastric region was occasional, later more continuous. For the past two weeks the pain has been much worse and soda does not give relief. Pain bears no relation to meals. For the past few days food seems to lodge in the stomach, each evening he vomits a large amount of sour material. He has had diarrhea for the past week. The family history is essentially negative.

Physical Examination: Shows a poorly developed and undernourished male with carious teeth and pyorrhea. Impression: Cancer of the stomach.

Laboratory Findings: Blood pressure 140/88. Hemoglobin 51 per cent.

X-ray Examination: Shows an obstructing lesion at the outlet of the stomach, marked gastric retention with moderate dilatation.

On May 18, a gastric resection was done. An extensive tumor of the stomach was found involving the lesser curvature of the stomach. This was very extensive and barely came within the operative type. The lesion being adherent to the first portion of the jejunum, root of the transverse mesocolon and pancreas. Two-thirds of the stomach including the pylorus, a small portion of the pancreas was resected. An end to side posterior Polya type of gastrojejunostomy was done. This patient had a relatively normal convalescence.

Pathological Examination: Adenocarcinoma of the stomach with ulceration.

X-ray Examination: Made before patient left the hospital, showed the remainder of the stomach and the new stoma to be functioning very well.

Case 7: M. M., colored female, age sixty-three, admitted to the hospital, May 4, 1936 complaining of stomach trouble.

History: The patient states that about eighteen months ago her stomach was perfectly all right. Soon afterward she began to notice a tendency to recurrent biliousness after meals, with a bloated feeling and some discomfort extending around under the costal margin to the back. This condition progressed gradually, until two months ago when discomfort after meals grew worse and she began to notice epigastric tenderness. Within four weeks indigestion, tenderness and pain in the epigastrium progressed to such an extent that a bed and chair existence was required. Constipation had increased practically to obstipation. Lost ten pounds in weight in the past year, also complains of some vomiting. However, she has vomited no blood.

Physical Examination: Revealed a tender mass in the epigastrium.

Laboratory Findings: RBC 4,500,000. Hemoglobin 80 per cent. Total acidity 80 degrees and free HCL 56 degrees. Wassermann test negative.

X-ray Examination: "Ulcerative carcinoma involving the distal half of the stomach with a rather large perforating ulcer on the posterior wall, midportion, and distal half of the stomach."

Patient returned to the hospital May 4 for operation. A posterior gastroenterostomy was performed. The carcinoma was found to in-

volve the pylorus, antrum and nearly all of the lesser curvature. The stomach was also fixed, on most of its posterior surface except rather high up toward the fundus.

Owing to the involvement high up on the lesser curvature near the fundus it was deemed inadvisable to undertake even an exclusion type of operation.

X-ray Examination: Made later, showed the new stoma to be functioning satisfactorily.

Case 8: R. K., white male, age 27, admitted to the Charleston General Hospital, July 9, 1935 complaining of pain in the stomach.

History: The patient states that for the past five or six years he has had an acid stomach, takes antacid powders, etc. Had sharp pains in the epigastric region which were relieved by taking food. The condition grew progressively worse and about nine months ago he had a hemorrhage following which he was taken to the hospital where a diagnosis of duodenal ulcer was made. He remained for fifteen days in the hospital under treatment, returned to his home and got along fairly well until about two weeks ago when he again started having pain. The pain has grown much worse and for the past three days it has not been relieved by food or medication. Has not vomited but the stomach seems to be filled with gas. The patient does not know whether he has lost weight or not.

Examination: The patient is well developed and nourished. The general physical findings are essentially negative except for a mild rigidity and spasm over the epigastric region with tenderness to deep palpation over the upper abdomen.

Laboratory Findings: Gastric analysis showed free HCl 45, total acidity 70, RBC 5,250,000. Hemoglobin 90 per cent. Kline and Wassermann tests were negative.

X-ray Report: "Ulcerating carcinoma on the greater curvature involving the pyloric end of the stomach."

Operation: July 16, 1935. Findings: A large ulcer, greater curvature of the stomach which caused a great deal of deformity, and was covered with adherent omentum. A Billroth-Polya type of operation was performed, resecting the pylorus and lower half of the stomach.

Pathological Report: (1) Acute and chronic gastric ulcer (greater curvature). (2) Carcinoma, probably grade four, arising from the glandular epithelium.

In spite of the youth of this patient his prognosis was considered hopeful for a permanent cure. The patient made a fairly uneventful recovery and left the hospital on the fourteenth postoperative day, feeling stronger and able to take nourishment well, and entirely free from gastric discomfort. This patient will in all probability receive a permanent cure. A recent report, December 5, 1936, from his physician states that he is in good physical condition and the results of treatment have been very satisfactory. X-ray examination made a few weeks ago, shows a normally functioning stoma with no signs of recurrence.

Case 9: Mrs. E. T., white female, age 69, admitted to the Charleston General Hospital, March 17, 1935 complaining of tenderness over the epigastrium.

History: The patient states that since December, 1933, she has been suffering from pains in the abdomen and under the ribs. She has vomited frequently. Takes laxatives and her stools have been "tar colored." Lost much weight, and her appetite is quite poor. She was a patient in the hospital about one year ago at which time she was treated for asthma. At that time her abdomen and legs were swollen and it was thought that she might have some circulatory failure.

Present Illness: Four days ago, the patient had a severe stomach hemorrhage (the blood was bright red) accompanied by pain.

Examination: The patient is in a state of poor general health and nutrition. Poor first

sound of heart followed by an early diastolic or late systolic rough murmur.

Abdomen: Poor tone of muscles and is scaphoid. An apparent mass can be palpated in the upper abdomen, just to the right of the midline. There is some tenderness over the upper right quadrant and epigastrium. Dullness hardly reaches the fifth rib and the edge is not felt. The liver appears small.

Laboratory Findings: Hemoglobin 91 per cent. Kline negative. RBC 7,600,000.

Preliminary X-ray Report: "Ulcerating carcinoma involving the distal third of the stomach. I would like to re-ray to check the cardia."

Final X-ray Report: "There are multiple areas of ulceration throughout the midportion of the stomach with narrowing and loss of rugae folds. The lesion involves the entire stomach. Röentgenologically it was considered malignant, although a mass could not be palpated through the abdominal wall. Syphilis was suggested.

Operation: March 23, 1935. Findings: On opening the stomach through a midline incision, it was found that numerous ulcerated areas of mucosa could be seen. It was also noted that the stomach wall was about three times the normal thickness. Many ulcerated areas were noted on the greater curvature. In view of the history and pathology noted, a diagnosis was made of "chronic gastritis with multiple ulcers of the stomach." A subtotal resection of the stomach was done, removing approximately two-thirds of the viscus. Anastomosis between the jejunum and resected end of the stomach.

Pathological Report: Acute ulcerative gastritis, superimposed on a chronic gastritis.

Case 10: C. A., white male, admitted to the Charleston General Hospital, July 15, 1930 with a diagnosis of probable ulcer of the stomach. At this time, he gave the following history.

History: For the past two months food has been regurgitated from the stomach. This occurs practically after each meal. Rarely he vomits. Even at night, while asleep, food is regurgitated, causing strangling. Has some pyrosis; also sourness of stomach which he attributes to taking laxatives. He has never vomited blood nor has he seen blood in stools. Has never had any stomach trouble until five or six months ago. Past health has been good. Has lost a little weight. Has a good appetite but is afraid to eat. He feels weak.

Examination: Shows a fairly well nourished man of fifty-six years of age. Skin, head, neck, chest, heart and rectal examinations were negative. There is a slight tenderness in epigastrium on pressure, but no rigidity, no pain or masses.

Laboratory Examination: Stomach contents showed almost complete anacidity; no free hydrochloric acid; total acidity 15. Urinalysis negative. Wassermann negative. Blood count 4,580,000. Hemoglobin 80. Leucocytes 5,750.

X-ray Examination: Report made at this time, by Dr. E. L. Lanman was as follows: "Spasticity of the pyloric end of the stomach. No definite evidence of any organic pathology."

Treatment: This patient was given large doses of hydrochloric acid, and advised that this treatment be continued.

The patient returned on December 5, 1930 and gave the following additional history: Since discharge in July, 1930, patient had been having frequent attacks of cramping in abdomen, and vomiting. He is habitually constipated and requires laxatives.

Physical Examination: Still essentially negative. Blood pressure 110/65.

X-ray Examination: Again made by Dr. E. L. Lanman, and reported as follows: "Definite evidence of organic involvement of the antrum of the stomach, probable cancer. Definite constipation.

Operation: On December 13, 1930, the patient had a gastric resection for removal of carcinomatous mass involving the pylorus and immediately adjacent portion of the stomach. "Tumor mass involving the pyloric end of

the stomach about two and one-half inches in diameter, no glandular metastases noted," were the reported findings. A resection of the pyloric end of the stomach was done, with closure of the end of the duodenum. Posterior gastroenterostomy.

Pathological Report: By Dr. C. F. Hodges was as follows: "Cancer of the stomach, either grade two or grade three malignancy."

Postoperative Course: Patient made a satisfactory recovery. There was a slight temperature and pulse rise following operation. However the patient was discharged from the hospital December 26, 1930 in good condition.

Six years later, the patient returned to the hospital complaining of pulmonary tuberculosis. At this time, his stomach was checked by x-ray and no evidence of recurrence could be detected. Reports that he has had little, if any stomach distress since the operation in 1930.

It will be noted that practically all the above cases show the dire results of delay. In some of them nothing could be done to give relief. In some of the others very little could be offered.

The percentage of ulcers that become malignant is probably very low.

The salvation of patients with carcinoma of the stomach is in early diagnosis.

Early diagnosis can be made only when x-ray examinations of the stomach are made upon evidence which at best, is only suspicious and it must be accepted that many examinations will prove negative.

The duration of the history is in no wise a criterion of the extent of the disease.

Partial gastrectomy even in patients with metastases gives better results than palliative gastroenterostomy.

Early diagnosis and radical partial gastrectomy offer definite hope for cure, as demonstrated by cancer patients alive and well years after operation.

BIBLIOGRAPHY

1. Eusterman, George B.: *The Stomach and Duodenum.* W. B. Saunders Co., 1935, Philadelphia.

2. Rehfuss, M. E.: *The Diagnosis and Treatment of Diseases of the Stomach with an Introduction to Practical Gastroenterology.* W. B. Saunders Co., 1927, p. 1236, Philadelphia.

3. Schereschewsky, J. W.: *Cancer Mortality in the Ten Original Registration States; Trend for Period* 1900-1920. Journal of American Medical Association. October 17, 1925, No. 85, p. 1175-1180.

4. Harris, Seale: *The Early Symptomatology and the Diagnosis of Gastric Cancer.* Feb., 1936. Vol 31. No. 2. The American Journal of Surgery. P. 225-236.

5. Brooks, Barney: Quoted by Seale Harris, The American Journal of Surgery. P. 235. Vol. 31. No. 2.

6. Lahey, Frank H.: *Cancer of the Stomach.* Surgery. Gynecology and Obstetrics. Feb., 1936. Vol. LXII. No. 2. P. 246.

Idem: *Cancer of the Stomach.* The New England Journal of Medicine. Vol. 212. No. 19. May 9, 1935. P. 863. Frank H. Lahey. Neil W. Swinton and Matthew Peelen.

Idem: *Cancer of the Stomach.* Frank H. Lahey and Sara M. Jordan. The New England Journal of Medicine. Vol. 210. No. 2. January 11, 1934. P. 59.

7. Horsley, J. S.: *Gastric Resection for Carcinoma of the Stomach.* The American Journal of Surgery. February, 1936. Vol. XXXI. No. 2. P. 240-245.

ARTERIAL HARDENING

Persons with hardening of the arteries, or arteriosclerosis, may live until old age as long as the opening in these vessels allows sufficient blood to pass through to the various tissues requiring nourishment by the blood stream. Dr. Saul S. Samuels writes of "Poor Circulation" in the April issue of *Hygeia.*

Dr. Samuel supplements this statement with the fact that it is only when the free flow is blocked, either partially or completely, that trouble starts and symptoms and signs of disease appear. This is why so many persons are going about today with arteriosclerosis but do not know of it until they feel pain or some other warning that all is not right with the irrigating lines that convey blood to various parts of the body.

Not only do these arteries act as channels to convey the blood, but they also assist the heart by contracting rhythmically and thus aid considerably in pushing the blood along to the various tissues needing nourishment.

The stiffening of the arteries may not necessarily affect the circulation of the blood much, as long as the opening, or lumen, of the vessels remains clear and patent. If, however, the stiffening of the arteries should be combined with a thickening of the tubes, much less blood will be able to flow through, just as in the case of corroded water pipes.

NEOPLASMS OF THE OVARY*

By Clement C. Fenton, M. D.
Morgantown, W. Va.

Cysts of various types are very numerous in the ovary and it is very difficult to determine their origin. Retention cysts are very common and the most frequent of these is the follicular cyst. It is believed to arise from atretic follicles, follicles which have not matured and have undergone cystic degeneration. Their occurrence has been noted in infants and young girls and, as Spivak suggests, may be due to increased pituitary activity. The ovaries are several times the normal size and the cysts rarely exceed 3 cm. in diameter. Occasionally a large simple cyst, the size of a lemon, is observed. The cysts are lined by a low columnar epithelium which is surrounded by a dense connective tissue.

Theca-lutein cysts occur in which the lining cells resemble lutein cells. They are difficult to differentiate from the corpus luteum cysts which possess a convoluted layer of lutein-like cells. Frequently they are associated with hydatidiform moles and chorion-epitheliomata of the uterus.

Endometrial or chocolate cysts of the ovary are very common. Sampson has described implantations of benign endometrial tissue upon the surfaces of various structures of the abdominal cavity and believes that these growths, as well as those of the ovary, are due to backflow of menstrual blood and tissue fragments which are carried through the Fallopian tubes into the peritoneal cavity. He recommends that diagnostic curettage and manipulations of the uterus be done with care to avoid the possible formation of these implants. Many still believe that the choclate cysts are follicular in origin and King states that their causation is still shrouded in mystery.

Solid adenomata of the ovary are infrequent. Two main types are described on the basis of the contents of the cysts. They are the serous and the pseudomucinous cystadenomata. The cystadenoma serosum is less common than the pseudomucinous variety and comprises about one-third of the cystic tumors of the organ. They may grow to a large size but do not reach the proportions of some of the large pseudomucinous cysts. Some possess a pedicle. In about seventy-five per cent of the cases they are bilateral. The tumors may be either unilocular or multilocular. The contents are serous in character and rich in albumin. One of the main features is the presence of papillae which project into the interior of the cysts or grow from the surface of the tumor. The epithelium covering the papillae consists of a layer of low columnar ciliated cells. Peritoneal transplants are likely to occur due to detachment of papillae or rupture of the cysts. The cysts grow slowly and are essentially benign in their course. Ascites, which may require frequent tapping, occurs with peritoneal implantation. Recurrences after operative removal are frequent. Many are distinctly carcinomatous or undergo malignant transformation.

The majority of the cystadenomata of the ovary are of the pseudomucinous variety. Bilateral involvement occurs in about one-fifth of the cases. Some of them attain remarkable dimensions. Zacharias reported one weighing 132 kilograms. They are multilocular and the contents consist of a clear viscid gelatinous like material which may be thick or thin in character. A pedicle develops which occasionally may become twisted. Histologically, partitions of fibrous connective tissue are seen containing blood vessels which are lined by a

*Read before the regular monthly meeting of the Monongalia Hospital Staff, February 1, 1937.

columnar epithelium. The nuclei are situated at the base of the cells and the cytoplasm is clear due to the presence of pseudomucin. Low papillary outgrowths may project from the walls of the cysts. The course of these tumors is slow and most of them are removed surgically without recurrence. When papillary structure is marked, peritoneal implants may take place especially when the cysts rupture. The condition in which multiple gelatinous implants occur on the peritoneum is known as pseudomyxoma peritonei. Secondary infection is likely with the formation of abscesses. Ascites is rare. Carcinomatous change is occasionally noted in the more solid and papillary portions of the cysts.

Two types of ovarian teratomata are observed, the dermoid cyst which is quite frequent constituting about ten per cent of all ovarian tumors and the solid teratoma which is rare. In this group, tumors of very complex nature are found with tissues and organlike structures arising from more than a single germ layer. They include skin, hair, teeth, bony structures resembling the maxillae, sternum or ribs, sweat and sebaceous glands, nerve tissues, rudiments of salivary glands, mucous glands, portions of the gastrointestinal tracts, thyroid gland, cartilage, lymphoid tissue, muscle, etc.

The dermoid cysts may be unilateral or bilateral. They usually originate within the ovary. Occasionally they develop in the broad ligament from accessory ovarian tissue. A pedicle is usually formed. They are globular in shape and small or moderate in size, but may attain large dimensions as one Falk reported weighing twenty-five kilograms. A fibrous wall of varying thickness surrounds it. Upon sectioning the specimen, the interior contains a thick, greasy, yellow or white material which at room temperature has the consistency of butter. Hair is usually intermingled with the contents and well-formed teeth may be observed. Microscopically, the wall may contain structures enumerated above, as skin, sebaceous glands, hair follicles, bone, cartilage, muscle, etc. The prognosis of simple dermoids is very good, for they are easily extirpated. Only about three per cent become malignant.

The solid teratomata are exceedingly uncommon, and only about fifty of them have been reported. They are rapid in growth and malignant from the beginning. Peritoneal implants and distant metastases may occur. The metastases are usually sarcomatous in character but sometimes structures similar to the primary growth may be encountered. Histologically, they are characterized by sarcomatous, myxomatous, or carcinomatous areas intermingled with cartilage, bone, muscle, neuroglia tissue, etc. They are usually fatal, although when well circumscribed, they have been removed successfully.

The fibromata constitute about two per cent of ovarian tumors. They may reach large size and give rise to a massive ascites. Chondromata and osteomata are usually parts of a teratoid growth. Leiomyoma is occasionally observed. Angiomata have been described. The group of endotheliomata are now generally considered carcinomata.

Sarcoma of the ovary is observed in about five per cent of all ovarian tumors. A wide variety of histological types are seen. The round cell type prevails in younger individuals while in the adult the spindle cell variety is more frequent. Myxomatous change is common. Their prognosis is poor. Recurrence with metastases to the retroperitoneal lymph nodes is very frequent.

Ovarian carcinoma is found twice as frequently as sarcoma. Due to their histogenesis a number of varieties are encountered. Two main groups are observed macroscopically, the solid and cystic varieties. The solid tumors at first maintain the form of the ovary but later may reach 18 to 20 cm. in diameter. Metastasis to the other ovary is common. Histologically, a considerable variation in structure is observed, such as the adenocarcinoma simplex, a small round cell type resembling lymphosarcoma, a so-called psammatous type containing calcareous granules

and a squamous cell type, which may be due to a metaplasia of ovarian epithelium or a manifestation of a teratomatous growth.

Cystic carcinomata are of more frequent occurrence than the solid type. It is possible that a number of papillary cyst cystadenomata may undergo malignant transformation but some exhibit a carcinomatous structure throughout. The cysts are smaller and not as numerous in the malignant growth. Papillary growths are present on the surface of the organ and tend to spread to the peritoneum. The course is slow but metastases occur in the opposite ovary and implantation takes place on the peritoneum. Recurrence is higher in this form of carcinoma than most of the other varieties. Malignant change is not as frequent in the pseudomucinous type of adenoma as in the serous variety. Mucus is formed in smaller amounts than in the adenomata. Metastases develop in the regional lymph nodes, bone, and other places. Peritoneal implantation is extensive. Following their removal recurrences are very frequent.

In 1896 Krukenberg described a peculiar tumor of the ovary which he called a fibrosarcoma mucocellulare carcinomatodes. The tumor is generally considered to be a secondary one, the primary site being in the stomach, intestine, fundus of the uterus or elsewhere. They are usually bilateral and solid in character. Histologically, the tumor has a very characteristic appearance. The stroma is fibromatous with a diffuse growth of round or polyhedral cells which are vesicular in character. The nuclei are pressed to one side giving the cells a signet ring shape. The prognosis of this tumor is always grave.

A rare tumor which has attracted considerable interest is the granulosa cell carcinoma of Werdt. It may occur in one or both ovaries. The growth ranges in size from a few millimeters in diameter to masses almost filling the abdominal cavity. It has been observed before puberty but is most frequently encountered after fifty years of age. The microscopic appearance varies, but generally the tumor is composed of cells resembling those of the stratum granulosum. In young girls, manifestations of sexual precosity are exhibited. During the period from menstruation to the menopause, irregular bleeding or long periods of amenorrhea may be observed. After the menopause, pseudomenstrual bleeding may be manifested. Their malignant tendencies are of lesser degree than the general ovarian carcinomata. Local invasion and metastases occur. Normal sexual development returns after removal in children.

Goodall, who has made a careful study of the mammalian ovary from an embryological standpoint, states that there are no structures in the testicle which have not had at some time their homologue in the ovary. Some of them are transitory and disappear completely in the ovary; others remain but are modified to suit a modified function. It is the development of these testicular elements and their later incomplete atrophy which accounts for the development of many types of epithelial tumors in the ovary. An example is the arrhenoblastoma or testicular tubular adenoma which is exceedingly rare. The stroma may contain cells resembling the interstitial cells of the testis together with cells arranged in tubules resembling those of the testis. It causes extraordinary symptoms of masculinity in women. Other rare tumors which deserve mention are the disgerminoma which is believed to originate from primitive germ cells and the oöphoroma folliculare of Brenner which causes no disturbance of sexual characteristics.

BIBLIOGRAPHY

1. Bell, E. T.: Text-book of Pathology, Lea and Febiger, Phila., 1934.
2. Bennett, A. E., and Douglass, M.: *Krukenberg Tumors of the Ovary*, Am. J. Obst. and Gynec. 21, 91, 1931.
3. Boyd, W.: Text-book of Pathology, Lea and Febiger, Phila., 1934.
4. Delafield and Prudden: Text-book of Pathology, Wm. Wood & Co., Baltimore, 1936.
5. Everett, H. S.: *Probable Tubal Origin of Endometriosis*, Am. J. Obst. and Gynec., 1, 22, 1931.
6. Ewing, J.: *Neoplastic Diseases*, W. B. Saunders, Phila., 1928.
7. Goodall, J. R.: *Origin of Tumors of the Ovary*, Surg. Gynec. and Obst., 30, 249, 1920.
8. Karsner, H. T.: *Human Pathology*, J. B. Lippincott, Phila., 1935.

9. King, E. S.: *The Origin of Endometriosis of the Ovary.* Surg. Gynec. and Obst., 22, 53, 1931.
10. MacCollum, W. G.: *Text-book of Pathology,* W. B. Saunders, Phila., 1936.
11. Major, R. H.: *A Study of the Krukenberg Tumor,* Surg. Gynec. and Obst., 27, 195, 1918.
12. Novak, E. and Browner, J. N., Jr. *Granulosa Cell Tumors of the Ovary,* Am. J. Obst., 28, 637-649, 1934.
13. Sampson, J. A.: *Benign and Malignant Endometrial Implants in the Peritoneal Cavity and Their Relation to Certain Ovarian Tumors.,* Surg. Gynec. and Obst., 28, 287, 1924.
14. Spivak, M.: *Polycystic Ovaries in the Newborn and Early Infancy and their Relation to the Structure of the Endometrium.,* Am. J. Obst. and Gynec., 27, 157, 1934.

ACUTE LYMPHATIC LEUKEMIA*

(Case Report)

By L. F. DOBBS, JR., M. D.
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PATIENT was an ambulatory white male, age 14, admitted to the hospital November 20, 1936.

History—C. C.: Weakness, swelling of neck on the left, bleeding from nose and gums, and a profuse diarrhea.

H. P. I.: Up to four or five months ago patient was in usual health, and at this time had a lower left molar extracted. Following this, he started to bleed from the socket and the glands on the left side of neck began to swell. Shortly afterwards patient developed a slight bleeding from the nose. Later generalized weakness developed. About one month previous to admission, diarrhea developed and became progressively worse. Upon admission, patient was having from 12 to 14 bowel movements per day. While going to his room from the admission desk, patient had to sit down twice to rest.

F. H. and P. H. essentially negative.

Physical Examination: Examination reveals a slender, markedly anemic, cachectic, emaciated white youth sitting up in bed holding head in hands, short of breath, vomiting, complaining of headache, and in acute distress. T. 105.2°, P. 130, R. 30.

Head: Hair coarse and yellow-tinged.

Eyes: Sclera slightly yellow.

Ears: Negative.

Nose: Slight epistaxis.

Mouth: Teeth dirty and carious, gingivitis present. Tonsils reddened and hypertrophied. Oozing of blood from left lower gum.

Mucous Membranes: Very pale.

Neck: Enlarged and tender cervical lymph nodes at the angle of the mandible on the left.

Chest and Lungs: Expansion free and equal, no impaired resonance, no dullness nor râles.

Heart: P. M. I. sixth interspace and in anterior axillary line. Rate rapid. There was a three beat cycle suggestive of gallop rhythm. A systolic murmur was heard at all areas, loudest at the pulmonic. Pulse regular.

Abdomen: Liver palpable two fingers below costal margin. Spleen not palpable. Otherwise negative.

Genitalia: Negative.

Extremities: Nail beds extremely pale, otherwise negative.

Adenopathy: No glands palpable except cervicals mentioned.

Reflexes: Physiological.

Laboratory: On admission: RBC 550,000. Hgb. 13 per cent. WBC 20,600. Polys. six

*From the Medical Service, St. Mary's Hospital, Huntington. Reported by the courtesy of Dr. C. P. S. Ford.

per cent. Lymphocytes five per cent. Lymphoblasts 89 per cent. Smear: Large number of fragmentary nuclear structures, and polychromatophilic macrocytes. Urine negative. Kline three plus. Wassermann negative. Stool: Few ova of Ascaris.

Diagnosis: From patient's age, anemia, malaise, weakness, temperature, diarrhea, palpable liver, enlarged cervical lymph nodes, history of onset, gingivitis, epistaxis, bleeding from gums, and laboratory findings, a diagnosis of acute lymphatic leukemia was made.

Course: Patient, a sub-group of Type I, received five transfusions. Two donors were Type IV and three were Type II. Following the second transfusion, diarrhea, bleeding from gums, and epistaxis had stopped. The patient felt stronger and appetite improved. Hgb. 38 per cent, RBC. 1,700,000, WBC. 60,400, polys four per cent, lymphs four per cent, eosinophiles one per cent, lymphoblasts 91 per cent. Abnormal rhythm and murmurs of heart disappeared.

Patient followed a somewhat stable course for six weeks, receiving an occasional transfusion and two cc. of liver extract every third day. Four weeks after admission the cervical glands on the left became larger and more tender and painful, so much so, that patient held head to right side and held neck rigid. One week later fluctuation was noted in the mass of glands and on December 29, 1936, under cyclopropane anesthesia, the mass was incised and two to three ounces of green pus was drained from an abscess. About four days later an abscess developed in the gluteal area on the right. Five cc. of brownish yellow pus was aspirated from it on January 5, 1937. On the next day the abscess was incised and drained.

From this time on patient rapidly went down hill. The last blood count was taken on January 13, 1937: RBC 220,000. Hgb. nine per cent. WBC 123,000. Diarrhea and vomiting again developed and tarry stools were passed. Also vomitus was bloody. Patient was very apprehensive of his condition and on January 21, 1937, died after being in the hospital for two months.

During Course of Illness: Temperature ranged from 97.8 to 105.2°, usually ranging between 101 and 103°.

Hgb. ranged from a low of nine per cent to a high of 50 per cent.

RBC ranged from a low of 220,000 to a high of 1,700,000.

WBC ranged from a low of 20,600 to a high of 123,000.

Polys ranged from four to six per cent.

Lymphocytes ranged from four to 10 per cent.

Lymphoblasts ranged from 74 to 91 per cent.

Post Mortem: Significant Findings:

Spleen: About twice normal size, extremely flabby, greyish red on section with numerous grey, ovoid, pulpy, aggregations of cells. Germinal centers almost indistinguishable from the pulp, which shows masses of young lymphocytes. Many nucleated red cells present.

Liver: Diffuse infiltration with young lymphocytes, some of which are in aggregations resembling germinal centers.

Lymph Node: Loss of germinal centers, diffuse lymphoblastosis.

Bone Marrow: Almost entire replacement of myelogenous tissue by immature lymphocytes. Many basket cells present. Other tissues removed showed marked infiltration of immature lymphocytes.

Pathological Diagnosis: Acute lymphatic leukemia.

Summary: A case of acute lymphatic leukemia is reported with the significant findings.

Complications: Suppuration of cervical glands, gluteal abscess from intramuscular injection of liver extract.

Treatment: Blood transfusions, liver extract, and symptomatic.

BLOODY PLEURAL EFFUSION*

(Case Report)

By PAUL M. HUDDLESTON, M. D.
Huntington, W. Va.

MR. J. G., age 63, train conductor, was first seen in the clinic on December 9, 1936, complaining that he had heart disease, and from all appearances it seemed that he might be correct. He was very dyspneic, pale and weak, and unable to walk without assistance. He was admitted to the hospital without further examination for a complete check-up.

The history shows that he has been ill for the past three years with varied complaints, none of which have been definitely diagnosed. During these three years he has had, it seems, a vague, low, left chest pain which at times had been in the left upper quadrant of the abdomen, and for which he has been given liniments, salves, and sedatives, and at one time had his chest strapped for "pleurisy." None of these remedies proved to be of value. For the past year he has been getting weak and has been unable to do his work as well as formerly, being on duty for three or four days and then off about the same length of time. He states that for about a year he has been getting short of breath on exertion and becomes very dizzy when he stoops over. The mild left chest pain has continued unabated. On October 12, 1936, approximately three months prior to admission, he became exceedingly dyspneic when walking up some steps, and he has done no work since that date. After this attack he went to a doctor who diagnosed his case as heart disease and prescribed tr. digitalis, fifteen drops three times daily, which the patient has taken up to the present time without any relief of his symptoms. He continued to become weaker and more dyspneic, lost thirteen pounds of weight during the last two months, continued to have his left chest pain, and so came to the hospital.

In review of the various systems we find nothing of particular note.

E. E. N. T.: Negative except that he has become slightly hoarse during the past few weeks.

C. R.: The cardiorespiratory system has caused most of the symptoms, as we found in the history of the present illness. He has had a great deal of coughing recently with expectoration of frothy, white fluid. No blood has been noted. He has had no chills, fever, sweating, or jaundice. There has been no edema of his ankles.

G. I.: Appetite has been very good and he has had no dyspepsia of any type. His bowels move regularly without the use of laxatives and he has had no abdominal pains.

G. U.: No complaints whatsoever.

N. M.: He states that he has become very forgetful during the past few months and remembers facts poorly.

Past History: The patient had the usual childhood diseases without complications or sequela. He had a hemorrhoidectomy in 1911, three fractured right ribs in 1912, and a left hernioplasty in 1919. Other than this there is nothing of note in his past history.

Family History: Regarding the family history we find nothing relevant to the patient's present condition. There is no family history of malignancy and no history of association with tuberculosis.

Marital History: The marital history is irrelevant.

Physical Examination: On physical examination we see a fairly well-developed and

*From the Medical Service, Chesapeake and Ohio Hospital, Huntington.

nourished white male about 63 years of age, sitting up in bed apparently very ill. He is pale, somewhat cyanotic, very dyspneic, and has a worried expression. The head, including the eyes, ears, nose, and throat, presents no positive points except that the patient is slightly hard of hearing. There is no enlargement of cervical lymph nodes, and the thyroid gland is small, uniform and firm. In the right supraclavicular region there is a small subcutaneous, firm, movable mass about one and one-half cm. in diameter. It is not tender.

The thorax is fairly well developed but the left side is more prominent than the right. Nothing else abnormal is noted. There is no tenderness. The examination of the lungs reveals a complete pleural effusion on the left. There is nothing abnormal noted on the right with the exception of a mild hyperresonance and a somewhat emphysematous type of breathing. No râles are heard.

On examination of the heart there is no apex beat visible; no impulse is palpable, and on percussion the heart is shifted markedly to the right. Sounds are clear, regular, rhythmical, and free from murmurs. Blood pressure is 148/78. Pulse, 78.

The abdomen presents nothing abnormal except a left hernioplasty scar and a large, freely movable, non-tender, uniform, subcutaneous mass measuring about 8x5x1 cm. in the left lumbar region.

The genitalia and extremities are normal.

Due to the patient's age and findings, a malignancy of the left lung or pleura was first suspected. X-ray examination revealed a large left pleural effusion with the right lung clear. At this time hemoglobin was 85 per cent with an erythrocyte count of 4,560,000. There were 7,300 leucocytes with 71 per cent neutrophils, 26 per cent small mononuclears, and three per cent large mononuclears. Treatment consisted in thoracentesis and general supportive therapy. From December 9 to December 14, approximately 3,000 cc. of bloody, frothy, sticky fluid were withdrawn from the left pleural space. X-ray then showed a considerable amount of fluid remaining, but the upper part of the left lung was clear. The patient was much more comfortable and felt well except for generalized weakness. His cough and expectoration had almost ceased. By December 31 all fluid had been withdrawn. The röentgenologist reported that both lungs presented a fine disseminated mottling throughout and an impression of miliary tuberculosis, instead of new growth, was made. Fluid reaccumulated rapidly and on January 20, a thoracentesis was done and 1,500 cc. of clear straw-colored fluid were withdrawn. This fluid showed a strongly four plus albumin, heavy globulin, but no growth on culture.

The patient was discharged on January 24 with orders to return in two weeks. Upon return he was somewhat short of breath and there was a large accumulation of fluid in the left chest. Since February 7, 3,300 cc. of fluid have been withdrawn from the left pleural space. On one occasion the fluid was clear and straw-colored, but on all other aspirations it has been bloody. At the present time his blood count is normal, there being a hemoglobin of 85 per cent, 5,250,000 red blood cells, 5,350 leucocytes with 77 per cent polymorphonuclears, 18 per cent small mononuclears and five per cent large mononuclears. Check-up on his physical condition reveals no change since the first complete examination. Several Wassermann reactions were negative.

On summarizing we find the following positive points of interest:

(1) Normal temperature throughout.

(2) Normal blood counts.

(3) A bloody, left pleural effusion which accumulates rapidly.

(4) A fine disseminated mottling of both lungs.

(5) Two small subcutaneous masses, probably lipomata.

(6) A loss of weight, approximately 15 pounds.

ERYSIPELAS*

(Case Report)

By F. L. COFFEY, M. D.
Huntington, W. Va.

R. F., a white male, age 42, entered the hospital November 6, 1936, with an infected laceration of the right frontal region of the scalp.

Patient was in an automobile accident ten days prior to admission to the hospital. He sustained a laceration about three inches long over the right frontal area of the scalp which was sutured at a hospital in Logan. He was discharged and returned to his home in Huntington where he was treated by a private doctor. The wound became infected and he was brought to Memorial Hospital for treatment.

Patient's History: Patient had always enjoyed good health prior to this accident. He had had no operations and no other accidents. He had influenza in the Army, measles, mumps and chicken-pox in childhood with no complications. He had had no malaria, diphtheria or typhoid.

Family History: Father died of tuberculosis; mother and one sister died of heart disease; no cancer, kidney disease or diabetes in the family. History by systems is essentially negative.

Physical Examination: Patient is a well-developed, well-nourished adult white male, acutely ill. There is an infected laceration about two inches long over the right frontal area of the scalp. Much pus is discharging from the wound, and there is considerable edema and swelling about the laceration. The calvarium was bare over an area of about two square inches. The pupils are equal and react normally to light and accommodation. Ears and nose, negative. Mouth, teeth, pharynx and tongue, normal. Neck, no adenopathy, no pulsation, no masses. Thyroid, normal. Chest: Expansion free and equal. Percussion note resonant. Breath sounds normal; no râles or friction rubs. Heart, no enlargement or murmurs; rate and rhythm normal. Blood pressure, 140/90. Abdomen, no distention, tenderness, rigidity or masses. Liver, kidney and spleen not palpable. Extremities, negative.

Due to the large amount of drainage and infection in the wound it was decided to dakinize the area. A tube was inserted, the scalp was shaved and the wound irrigated several times daily with Dakin's solution. The infection cleared up very satisfactorily under this treatment.

During the night of November 9, the temperature began to rise slowly. On the morning of November 10 the patient had a severe chill and his temperature rose to 105°. Several consultants were called and it was thought that a central pneumonia was developing although there were no positive physical findings. An x-ray of the chest was taken which showed no pneumonia. At this time a small reddened area appeared on the forehead near the base of the nose. This was thought due to a burn from the Dakin's solution and these irrigations were discontinued. The patient was given a blood transfusion and during the transfusion had a severe chill, his temperature rising to 107.5°

The usual treatment of sepsis was begun as pushing fluids, alkalinization, intravenous glucose and saline and hot boric compresses to the wound. The reddened area at the base of the nose rapidly spread over the bridge of the nose and malar eminences, and showed a

*Reported by the courtesy of H. D. Hatfield, M. D.

typical butterfly shape with a raised reddened edge and was covered with small vesicles.

A diagnosis of erysipelas was made and agreed upon by several consultants. Polyvalent anti-erysipelas serum was given at the rate of two therapeutic ampoules daily until eight doses were given. The temperature began to drop and it was thought we were getting results with the serum. However, on November 15, the temperature began to rise again varying from 102 to 105°. Also at this time ultraviolet ray treatments were given in a strength of 20 erythema doses daily for four days. The infection continued to spread over the face and scalp and extended beyond the hair line until it involved nearly the entire face and scalp.

Apparently we were getting no results from the serum, ultraviolet magnesium sulphate compresses and blood transfusions.

It was decided to try deep x-ray therapy in an heroic attempt to stop the course of this terrific infection. On November 18, the patient was given an x-ray treatment and a blood transfusion. The temperature began to drop and during the night reached a low level of 98°, dropping from 105°. On the morning of the 19th, the temperature again rose to 103°, following another blood transfusion. A second treatment of deep x-ray was given and again the temperature dropped to 98° in the afternoon and has remained so since. Two more small treatments with x-ray were given. Immediately following the x-ray treatment there was a decided improvement in the lesion about the face and scalp and in the general condition of the patient.

The white cell count during the course ranged from 11,000 to 24,000; the differential count was as follows: Fourteen per cent lymphocytes, four per cent monocytes, 81 per cent polymorphs, one per cent eosinophiles, red cell count varied from 4,000,000 to 4,500,000. Hemoglobin was 81 per cent, color index, 1.01. The urine showed the usual picture as found in the usual infection of this sort—one to two plus albumen, occasional white cell. Outside of this it was negative. Culture from the vesicles about the lesion was sterile, showing no bacteria.

The patient received four treatments of x-ray therapy on four successive days, beginning November 18, and ending November 21. The dosage was as follows:

160KV, 5Ma, 55cm T.S.D., .25 mm. copper (Cu) 2mm aluminum (A1) filter, 100 röentgen units.

The first treatment was to the left side of the face, the second to the right, the third to the left and the fourth again to the right.

KIDNEY STONES

Kidney stones may vary in size from that of an ordinary grapefruit to a pinpoint, and there is absolutely no relation between kidney stones and gallstones, Dr. James A. Seaman avers in his article on "Kidney Stones" appearing in the April issue of *Hygeia*.

The largest known stones found in the bladder weighed four pounds. They are formed as the result of disturbed or altered metabolism. The stone starts first as a small, microscopic collection of various salts and gradually grows larger, much as a large snowball is made by rolling a smaller one round about in the snow.

The lack of vitamin A, as well as vitamins B and C, is considered a factor in stone formation which predisposes the lining of the kidney to the infection. Too much carbohydrate, such as an exclusive vegetable diet, may be a contributory cause. Recent research has also shown that small tumors of the parathyroid glands alter the metabolism and lead to stone formation.

The preliminary symptoms are a vague feeling of weight or discomfort in the loin (just under the ribs in back, about two inches from the spinal column) and not usually severe enough to call a pain. There may be tenderness to the touch and there is a very strong disinclination to move.

Treatment is twofold: first, to relieve the pain, and second, to promote the expulsion of the stone.

Surgery is sometimes indicated as the correct treatment, and it may occasionally be necessary to remove the entire kidney if it is diseased. Such a person can then live just as long as any other for the remaining kidney then does the work of two organs.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

The author of the paper on which this abstract is based is a tuberculosis specialist whose earlier professional years were spent in a somewhat arduous general practice, and who is as a result of this experience unusually appreciative of the difficulties under which the general practitioner labors, particularly in the handling of his tuberculous patients.

The General Practitioner and Tuberculosis: In any tuberculosis control program the general practitioner is the connecting link between the patient and the tuberculosis specialist. Each of the three has certain responsibilities regarding the early diagnosis of tuberculosis and each, therefore, must bear some of the blame for cases diagnosed late,—the patient in that he has disregarded his symptoms, the practitioner in that he did not "tumble to it earlier," the tuberculosis specialist for failing to x-ray suspected cases. How may this chain be strengthened?

Considering first the link between the patient and his doctor, it is patently impossible to set the machinery in motion unless the patient comes to his doctor. Can anything be done to reduce the quite considerable percentage of patients who ignore their symptoms? The answer is, of course, a more adequate health education program so that "the public can be better informed about the onset of tuberculosis and the importance of early diagnosis." And the responsibility rests on tuberculosis associations and health departments.

In other cases, however, the delay in diagnosis is chargeable not to the patient but to the physician.

Here medical education must bear a large part of the blame. All too often the cases of tuberculosis seen by the medical student show all the classical signs and are, therefore, in an advanced stage. It is difficult too for the student to appreciate the slowness of the clinical course of tuberculosis. Most illnesses can be watched by the interne from immediately after onset until their termination. In tuberculosis he has "brief glimpses of different individuals at different stages and with different reactions" and "he is a genius if he can piece together the story from these odd chapters torn from different books." In this instance the challenge is to the medical schools.

Yet whatever the shortcomings of his undergraduate training in the diagnosis and treatment of tuberculosis the physician who engages in general practice will encounter many cases of tuberculosis and must therefore keep it ever in mind and use every opportunity for improving his ability to diagnose it. The author would impress upon the minds of all newly qualified doctors the following two thoughts:

"Always be on the lookout for tuberculosis even though you run the risk of being thought a crank for your pains. Never label an illness 'influenza' if there is no epidemic without subsequently having the chest x-rayed to make sure."

The general practitioner will frequently encounter a case which he has reason to believe is tuberculosis but on which he needs expert advice or additional diagnostic facilities, and it should be possible for him to secure x-ray plates of his patient's chest and where necessary the services of a tuberculosis specialist.

He is also much more likely to maintain his zeal for early diagnosis if he knows that adequate provision is made for the treatment of his patient in the event that his suspicions prove to have been well founded. In the event that no facilities exist for the hospitalization of the tuberculous he is likely to take the attitude that early diagnosis is of purely academic interest. To quote the author's analogy, —"supposing that neighboring surgeons would not operate on acute abdomens, one's zest for differentiating between perforated gastric ulcers and colic would be blunted, and one would fall too readily into the easy way of medicine which is—expectant treatment and guarded prognosis."

The general practitioner occupies a position of great strategic importance in the control of tuberculosis. He brings the patient into the world. On him in most cases devolves the responsibility for the initial diagnosis of tuberculosis and "after the tumult and the shouting have ceased, the tuberculosis officer and the sanatorium physicians departed, he tends the patient for the rest of his life and eases his parting."

The patient returns to him from the sanatorium a changed man both physically and psychologically. Various things have happened. "First, he has come to accept the fact that he has tuberculosis and that it is a long complaint. Secondly, he has lived among

other patients who are in the same plight. Thirdly, he has learned a lot about his complaint."

The general practitioner is now "the man on the spot." Yet much can be done to make his task easier and here are some of the ways in which the link between the general practitioner and the specialist (sanatorium physicians) may be strengthened.

"I consider it a blasphemous act for anybody to undermine whatever faith a patient may have in his doctor. For the patient, it is better to have faith in a mediocre doctor than a distrust of the best. For the average mediocre doctor it is far greater incentive to do good work and make himself worthy of the patient's unswerving (and often pathetic) belief in him. This is a matter in which tuberculosis officers, consultants and sanatorium physicians have the greatest power and where their closest cooperation is needed."

Secondly, a commission should be appointed to decide on post-sanatorium advice and treatment. The points which they consider of value should be embodied in a small printed pamphlet of instructions capable of alternate readings dependent on the mere stroke of a pen. It should be a simple matter to draw up such a set of instructions. If one copy be given to the patient on discharge, another to his doctor and another to the tuberculosis officer everybody would know where they were. In addition "I should like to see the doctor receive a copy of the x-ray photographs as well as the usual statistics such as body weight, blood sedimentation, râles, etc., which he can continue to record should he feel so inclined." Could a general practitioner read chest x-ray plates? Speaking for his late self of general practice days, the author's answer is—"No, he couldn't, but he would if he were given a chance."

Lastly, let the tuberculosis officer meet the doctor periodically for a real consultation over their shared cases. Once every three months say, there could be set aside a tuberculosis afternoon when the tuberculosis officer would meet the general practitioner and their ambulant patients at the doctor's consulting room after which they would proceed together to the home-bound cases.

Such close cooperation would have in the author's opinion a most stimulating effect. "With it," he writes, "the alleged ignorance and carelessness of general practitioners could not exist. It is the sort of help I wanted and could not get. It is not an impossible demand for I know that in some localities it is in existence and works well. Could it not be made a universal practice?"

The campaign against tuberculosis requires a chain of cooperation the links of which should be equally strong. These links are those between the patient and the general practitioner and between the general practitioner and the tuberculosis specialist. Their respective responsibilities have been discussed by an author who has had extensive experience in both of the medical rôles. His suggestions merit serious consideration.

The General Practitioner and Tuberculosis, George H. Day, Jour. of State Med., Jan., 1937.

HOW TO REDUCE

Although the slender, angular and frail figure has disappeared from the fashion magazines, still there are many individuals who are too fat for their own good. Dr. Maurice Hardgrove gives some timely warnings in "How to Reduce" appearing in the April issue of *Hygeia.*

Not only is fat a heavy burden, but being overweight in itself is an additional risk to good health. The heart must work harder. The body needs additional miles of small blood vessels to supply the pounds of excessive fat with blood. Diabetes is more common in fat persons, and their resistance to infection is lowered.

There are three groups into which most reducing measures fall: mechanical methods, drugs and diets. All are dangerous in the hands of the inexperienced. Vibrators, rolling machines and steam and heat treatments are popular mechanical means of taking off weight; but unfortunately they do not all remove weight permanently.

Drugs may often do more harm than good, as they may contain harmful substances. There are about forty preparations on the market which contain dinitrophenol, a drug which, if taken without medical guidance, may do irreparable bodily damage. Moreover, bath salts cannot remove fat. The skin is an adequate protection against the penetration of any fat-dissolving chemical. Many diets advertised are not well rounded. A single dietary regimen is no more suitable for every fat person than is the size of one hat or pair of shoes for all individuals.

PRESIDENT'S PAGE

Everything is in readiness for the Seventieth Annual Meeting of the Association at Clarksburg on May 24, 25 and 26, 1937. Dr. William R. Laird and his Scientific Committee have prepared a most excellent and varied program. The general arrangements committee of the Harrison County Medical Society, under Dr. C. O. Post, has completed all plans for the entertainment and comfort of the visiting doctors and their wives. The Ladies' Auxiliary, headed by Mrs. A. H. Stevens of Fairmont, has arranged a most attractive program of meetings and social affairs.

A number of matters of the utmost importance to the medical profession will be up for discussion at the Clarksburg meeting. The many and continuing inroads of state medicine will be taken up. The various features of the new Social Security Act, particularly pertaining to adult physical rehabilitation will be open for general debate in the House of Delegates. A number of proposed changes in our Association constitution will be voted upon. Only through the medium of a free and open discussion of these many problems by all interested doctors will our Association be able to satisfactorily map its future course of action.

Our Association is probably as strong or stronger today than it has ever been before. We have our largest membership and our largest financial reserve. Our contributions to the physical welfare of the people of this state have won for us the goodwill of the lay public. We enjoy the confidence of most of the branches of our state government. As we stand at the threshold of a new era, well equipped to fight the battles of organized medicine, we need and must have the continued active support of our entire membership.

The best way for all of us to show our support is to turn out at Clarksburg and make our seventieth annual gathering the best in our Association history. I want to personally urge every doctor who reads this brief message to attend the Clarksburg session. Put aside your practice for a few days, rub elbows with your confreres, pick up new thoughts from the scientific program, swap a few case histories and you will return home amply repaid for your trip. I want every member to help me make this our biggest and best convention.

President

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AMERICAN FOUNDATION REPORT

American Medicine — Expert Testimony Out of Court—is the title of the two volume report of the American Foundation Studies in Government dealing with the complex problem of providing the best of medical care to the largest number of our people at a price within the means of all. The report takes up what is right and what is wrong with American medicine, as expressed by the leading doctors and surgeons in every state.

The contents of the two volume report cover the problem of adequate medical care, views concerning the organization of medical care, medical education, specialization, group practice, the place of the hospital in the organization of medical care, public health organization, state medicine, health insurance and limited state medicine and private practice.

The contributors to the report, covering all the subjects listed in the foregoing paragraph, include general practitioners, family physicians, specialists, professors, research directors, public health directors, the officers of national, state and county medical societies and many others representing every phase of medical practice.

The report differs from most others in two important respects. First, it is a study of medical problems based on medical opinion. Second, it arrives at no conclusions and allows the reader to form his own opinion after studying the testimony offered.

This survey of medical opinion by the American Foundation should be of great value for a good many years to come to those who are interested in the problems of the medical profession. Among the questions discussed by the doctors in the report are: "How far can the individual citizen be responsible for his own health?"; "Is there too much specialization?"; "Are there practical ways of reducing present costs of medical care?"; "Is there too much surgery?" These and many other kindred questions are discussed through some 1500 pages of the report. Copies may be secured for $3.50 through The American Foundation, 565 Fifth Avenue, New York City.

ON TO CLARKSBURG

The Seventieth Annual Meeting of the West Virginia State Medical Association will be held at Clarksburg on May 24, 25 and 26, 1937. Final plans for the convention have been practically completed and advance hotel reservations indicate that it may be the largest registration in the Association's history. The complete program and the various convention announcements appear elsewhere in this issue of the JOURNAL.

Meeting conjointly with the Association at Clarksburg will be the West Virginia Society of Industrial Physicians and Surgeons on Sunday afternoon, May 23; the West Virginia Heart Association on Tuesday morning, May 25; and the West Virginia Obstetrical and Gynecological Society on Thursday morning, May 27.

One of the features of the Clarksburg session, aside from a very splendid scientific program, will be the exhibit of doctors' hobbies which will be under the direction of the Woman's Auxiliary. This exhibit will be housed in the lobby of the Stonewall Jackson Hotel, together with the scientific and technical exhibits. All sectional and general meetings will also be held in the Stonewall Jackson Hotel.

On behalf of the Harrison County Medical Society we welcome the doctors and their wives to Clarksburg for a pleasant and profitable three day session. The four sectional meetings will be held on Monday, May 24, and the general assembly sessions will be held on Tuesday and Wednesday, May 25 and 26. The closing address will be delivered at the Wednesday evening banquet by Dr. Thomas Parran, Surgeon General of the United States Public Health Service.

DR. COPELAND'S DINNER

Professional men are often honored for some outstanding achievement by their own confreres. Laymen often gather to pay tribute to one of their number for some unusual accomplishment. But it is seldom indeed that a group of laymen will organize and pay honor to a professional man, particularly if he happens to be a doctor of medicine.

That is what happened in Charleston on the evening of April 23 when more than 50 patients of Dr. C. E. Copeland gave a testimonial dinner in his honor at the Daniel Boone Hotel. There was no special occasion for the dinner; Dr. Copeland had reached no particular milestone in his useful career. The dinner was simply a spontaneous affair originated and planned by a large number of Charleston people for whom Dr. Copeland had been the beloved family doctor for several generations.

This tribute to Dr. Copeland by his patients is a comforting sign that the family doctor still is closest to the heartstrings of the American public.

CHILD HEALTH DAY

West Virginia's participation in the nationwide observance of May first as National Child Health Day was urged in Governor Holt's first official proclamation. The purpose of this celebration, as stated by the Governor, is to arouse greater interest in protecting and preserving the health of the children of West Virginia and the nation and in providing sanitary living conditions for each one. Governor Holt stressed the importance of providing adequate year-round health protection for every child, both in rural areas and populous cities.

The Governor's proclamation was given to Miss Dorothea Campbell, State May Day chairman. Miss Campbell has compiled interesting data on health conditions in West Virginia which has been sent to various schools and clubs throughout the state to assist with the preparation of child health programs.

Miss Campbell called particular attention to the increase in the infant mortality rate which rose from 60.7 to 70.9 in 1936. Respiratory diseases such an pneumonia and influenza showed the greatest increase, with diarrhea also showing an increase. More knowledge by all mothers of health precautionary measures and the general applications of these was urged, together with the regular careful health examination of all children.

DOCTORS' HOBBY EXHIBIT

Through the good offices of the Woman's Auxiliary, the members of the West Virginia State Medical Association will see their first state exhibit of Doctors' Hobbies at the annual meeting at Clarksburg on May 24-26, 1937. A special Auxiliary committee has been working on the exhibit for the past several months and a considerable number have already been lined up. The exhibit will be held at the Stonewall Jackson Hotel.

Among the exhibits already planned by the Auxiliary are the Alaska and Mexican hunting trophies of Dr. E. P. Smith, Fairmont; the prize iris of Dr. Ford Rogers, Fairmont; pieces of small furniture by Dr. C. W. Waddell, Fairmont; first editions by Dr. John Helmick, Fairmont; jewel cutting machinery by Dr. George Miller, Fairview and some of the animal heads and other trophies by Dr. W. S. Fulton, Wheeling.

The proposed exhibit should be of the keenest interest not only to the medical profession but to the public as well. We venture the prediction that the success of the exhibit will make it an annual convention feature.

TWENTY-FIVE YEARS AGO

(From the May, 1912, issue of the Journal)

Original articles appearing in the May, 1912, issue of the WEST VIRGINIA MEDICAL JOURNAL were contributed by:

"Anterior Poliomyelitis," Dr. L. D. Wilson.

"Meningitis with Reference to Diagnosis," Dr. A. O. Albin.

"Infant Feeding," Dr. T. H. Elliott.

"Importance of Maintaining Normal Mouth Conditions in Children," Dr. J. C. Archer.

"Strabismus in Children," Dr. J. L. Dickey.

"Hernia in Children," Dr. R. J. Reed, Sr.

* * * *

SOCIETY PROCEEDINGS

MERCER COUNTY SOCIETY

Editor of the W. Va. Medical Journal:

A regular meeting of the Mercer County Medical Society was held in the offices of Dr. Thomas E. Peery on the evening of April 11th, convening at 8:30. This was one of the most interesting and largely attended meetings we have had for many months. Dr. W. H. St. Clair read a paper on the "Treatment of Acute Appendicitis" in which the subject was ably handled. The paper was highly appreciated.

There was much business to be transacted at this meeting, and after the usual preliminaries it was proceeded with in a manner calculated to inspire the most inactive to intense interest. After a display of much wit and wisdom the business matters were disposed of and all the members present proceeded to the Busy Bee Restaurant's private dining room to partake of a Dutch luncheon provided for by our thoughtful treasurer, Dr. Thompson. To say the luncheon was a success would be expressing it too mildly. The relaxation and repartee indulged in made the occasion highly enjoyable.

W. C. SLUSHER, *Secretary.*

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MONONGALIA COUNTY SOCIETY

The Monongalia County Medical Society held its fortnightly meeting at the society's rooms last evening and elected officers, a delegate to the state meeting and an alternate. Marked recognition was given to the younger members of the profession in Morgantown by the election of the following: President, Dr. R. Coale Price; vice president, Dr. Clyde Watson; secretary, Dr. E. R. Taylor; treasurer, Dr. James A. Cox; censor for three years, Dr. S. J. Posten; censor for one year, Dr. J. N. Simpson; delegate to state convention, Dr. R. W. Fisher; alternate, Dr. J. A. Cox.

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COMPULSORY VACCINATION OF SCHOOL CHILDREN

A St. Louis physician brought suit to restrain the school board from enforcing vaccination and compel the reinstatement of his two unvaccinated children in the public schools. Judge Muench gave the following written opinion:

"If the city of St. Louis now enjoys comparative immunity from the plague of smallpox that happy condition may not illogically be attributed to the consistent enforcement of rules requiring universal vaccination, while a relaxation in the rigorous application of the rules would soon result in the existence of a large body of children who, through lack of immunity, would form a distinctly dangerous field for the development and spread of this dread disease."

The injunction was denied and the rule of the board upheld.

OBITUARIES

DR. SAMUEL BERARDELLI

The death of Dr. Samuel Berardelli, 36 years of age, of Weirton, occurred March 20, 1937 in the Eye, Ear, Nose and Throat Hospital, Pittsburgh, Pennsylvania. Dr. Berardelli had gone to the hospital for throat treatments. Death came suddenly and was due to a complication of illnesses.

Dr. Berardelli was born in Fairmont, West Virginia, December 8, 1901. He was graduated from the Follansbee public schools and received a Bachelor of Arts degree from West Virginia University. He received his Doctor of Medicine degree from Loyola University in Chicago and served his interneship in Chicago hospitals and at the Steubenville Ohio Valley Hospital.

He began practicing in Weirton early in 1926 and was widely known and respected throughout the vicinity. Dr. Berardelli was the secretary-treasurer of the Hancock County Medical Society at the time of his death, a member of the State Medical Association and the American Medical Association.

Dr. Berardelli is survived by his wife, Mrs. Frances McClelland Berardelli whom he married in 1935, and his daughter Joyce.

A called meeting of the Hancock County Medical Society was held following the demise and suitable resolutions were passed from which the following is taken:

"The members of this Society record with profound sorrow the passing of one of our fellow physicians—to have a man of Dr. Berardelli's early years in medicine removed when at the height of gainful experience and therefore usefulness in his chosen field of service to his fellow men leaves a sense of deepest regret."

DR. C. F. BOYERS

The death of Dr. Boyers occurred on Wednesday afternoon, April 14, following a brief illness from lobar pneumonia. Dr. Boyers was 63 years old and had been engaged in the practice of medicine in Morgantown for 27 years, during which time he served the county and city as health officer and physician for periods of considerable length.

Dr. Boyers was born in Marion County in 1874, a son of Dr. Cyrus F. and Elizabeth Rymer Boyers. After completing his public school education and graduating from Fairmont Normal School, he entered the Baltimore Medical College. Later he transferred to the Barnes Medical College at St. Louis, Mo., from which he was graduated in 1898.

After practicing medicine for 12 years in Fairmont, Dr. Boyers moved to Monongalia County. He was a member of the staffs of the City and County Hospitals and Monongalia County Medical Society, West Virginia State Medical Association and the American Medical Association.

Surviving are his widow, Mrs. Rose K. Boyers, whom he married in 1898; two sons, Dr. Fred A. Boyers and Dr. Harold H. Boyers, both Morgantown dentists and one daughter, Miss Thelma Boyers, also of Morgantown.

WASHINGTON VISITOR

Dr. Estella Ford Warner of Washington, D. C., only woman surgeon of the United States Public Health Service, will visit in West Virginia the latter part of May and will spend several days with the State Department of Health. Dr. Warner is coming here to conduct a class in health education at Jacksons' Mill for the Volunteer Leaders Camp.

COUNTY SOCIETY NEWS

BARBOUR-RANDOLPH-TUCKER

The regular meeting of the Barbour-Randolph-Tucker County Medical Society was held in the Elkins Y. M. C. A. on the evening of April 8 with a good attendance. Dr. W. Scott Smith, president, presided. During the business session, Dr. P. L. Gray, Elkins, was admitted to membership. Also the society voted to sponsor the obstetrical and pediatric conferences during the months of July and August.

Dr. R. J. Condry, Dr. W. E. Whiteside, Dr. C. B. Williams and Dr. Guy H. Michael were selected as delegates to the state meeting. Alternates were Dr. A. P. Butt, Jr., Dr. Brand and Dr. T. L. Woodford.

Dr. W. G. Harper introduced the guest speaker of the evening, Dr. W. R. Goff of Parkersburg, who gave a very interesting and instructive talk on "The Thyroid Gland." This brought forth a liberal discussion.

It was decided to hold the next meeting of the society in Parsons.

GUY H. MICHAEL, *Secretary.*

BOONE COUNTY

At a recent meeting of the Boone County Medical Society held at Madison, Dr. W. V. Wilkerson of High Coal was elected as delegate to the state meeting at Clarksburg in May.

Members of the County Public Assistance Advisory Committee were also selected at this meeting. The committee is made up of Dr. H. H. Howell, Madison; Dr. W. F. Harless, Madison; Dr. R. L. Hunter, Madison and Dr. W. V. Wilkerson, High Coal.

R. L. HUNTER, *Secretary.*

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on the evening of April 8 with a good attendance. The scientific program was presented by Dr. H. M. McClure of the Veterans' Hospital, Huntington. His subject was "Surgical Treatment in Cases of Ruptured Appendicitis with Diffuse General Peritonitis." This paper was highly interesting and practical and was liberally discussed.

The Mayor and City Council of Huntington recently ruled that Cabell County physicians be exempted from the overtime parking law now being rigidly enforced in Huntington. The exemption was made contingent upon the doctors displaying the official automobile emblem of the American Medical Association on their cars. Cars not bearing the official emblem will be "tagged."

CHAUNCEY B. WRIGHT, *Secretary*.

FAYETTE COUNTY

The regular monthly meeting of the Fayette County Medical Society, held April 20, 1937, at the Woman's Club, Montgomery, was devoted to a discussion of the Social Security Act, as related to medicine. Guest speakers of the evening were Mr. J. C. Ridinger, Fayette County Director of Public Assistance, and Mr. J. W. Harris, of the State Department.

Dr. A. J. Holton, Carbondale, was admitted as a member into the Society.

Delegates to the meeting of the State Medical Association were selected. They are Dr. George Fordham, Powellton and Dr. N. L. Cardey, Winona, with Dr. H. C. Skaggs, Montgomery, and Dr. F. S. Harkleroad, Harvey, as alternates.

Dr. Frank R. Harkleroad of Harvey has recently returned from Cleveland where he completed a postgraduate course at the Cleveland Clinic.

G. A. DANIEL, *Secretary*.

KANAWHA COUNTY

Dr. Warne Vaughan of Richmond, Virginia, was the guest speaker at the meeting of the Kanawha Medical Society which was held on April 13 at the Daniel Boone Hotel, Charleston. His subject was "The Management of the Hay Fever Patient." This was a most interesting, thorough and practical presentation and provoked much discussion and many questions.

Prior to the presentation of the scientific program, a dinner in honor of Dr. Vaughan was held at the Daniel Boone.

Delegates were elected as follows to the state meeting at Clarksburg: Drs. P. A. Tuckwiller, Russel Kessel, T. G. Reed, O. H. Bobbitt, A. A. Shawkey, Andrew E. Amick, J. U. Rohr and Claude B. Smith, Secretary. Alternates are Dr. W. W. Point, J. P. Lilly, W. A. Thornhill, Francis Clark, G. H. Barksdale, R. B. Price and A. W. Milhoan.

CLAUDE B. SMITH, *Secretary*.

LOGAN COUNTY

The Logan County Medical Society held its regular meeting on April 14, 1937 at the Aracoma Hotel with eighteen members present. The delegates to the state meeting were elected.

Mr. R. M. Barker, County Director of the Department of Public Assistance, gave a short talk and answered questions on the medical problems met with by his department.

Dr. G. E. Gwinn, Medical Director of Pinecrest Sanitorium, gave a lantern slide demonstration on "Compression Therapy" which was very interesting and instructive. This was followed by a general discussion.

J. L. PATTERSON, *Secretary*.

MONONGALIA COUNTY

The regular monthly meeting of the Monongalia County Medical Society was held at the Hotel Morgan, Morgantown, on the evening of April 6, 1937, with a good attendance. Dinner was served at 6 o'clock, preceding the scientific program.

The essayists of the evening were Dr. B. C. John and Dr. C. T. Thompson, both of Morgantown. Dr. John gave a most interesting paper on "Diagnosis and Treatment of Trichomonas Vaginalis." Dr. Thompson gave an excellent presentation of "Strangulated Hernia in Infancy." Both papers were well received and liberally discussed.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

The twelfth scientific meeting of the Ohio County Medical Society was held at the Ohio Valley General Hospital, Wheeling, on the evening of April 2 with Dr. Robert Armbrecht, president, presiding. The guest speaker of the evening was Dr. James R. Bloss of Huntington, editor of the WEST VIRGINIA MEDICAL JOURNAL and member of the Board of Trustees of the American Medical Association. His subject was "The Indications for Therapeutic Abortion." This excellent

presentation was discussed by Dr. W. P. Sammons, Dr. Robert J. Reed, Jr., and Dr. W. M. Sheppe.

Dr. Robert J. Reed, Jr., chairman, reported on behalf of the Public Assistance Advisory Committee that funds for medical relief were low and requested that members of the society carry on their relief hospital work without pay; the payment for office and home calls to continue. After considerable discussion, this matter was carried over for further consideration at a future date.

Dr. Fred W. Rankin, Lexington, Kentucky, was the guest speaker at the April 16 meeting of the Ohio County Medical Society which was also held at the Ohio Valley General Hospital. Dr. Rankin's subject was "The Hopeful Prognosis Following Surgery for Cancer of the Lower Gastro-intestinal Tract." Discussion of this splendid presentation was opened by Dr. J. A. Caldwell, Dr. W. S. Fulton, and Dr. R. W. Lukens.

W. M. SHEPPE, *Secretary.*

PARKERSBURG ACADEMY

The monthly meeting of the Academy of Medicine of Parkersburg was held at the Camden-Clark Hospital, Parkersburg, on the evening of April 1, 1937. Dr. A. R. Sidell, president, presided and there was an excellent attendance.

The guest speaker of the evening was Dr. Henry Klinzing, Pittsburgh, who gave a very interesting and practical paper on "Medical Aspects and Treatment of Peptic Ulcer." This was followed by a lively discussion by Doctors R. B. Miller, H. M. Campbell, R. H. Boice, B. S. Parks, J. L. Wade, R. H. Wharton and others.

During the ensuing business session, Dr. W. R. Goff and Dr. R. H. Wharton were elected as delegates to the state meeting at Clarksburg with Dr. Richard Hamilton and Dr. W. R. Yeager as alternates.

Dr. J. L. Wade discussed briefly the anti-tuberculosis campaign and the testing of school children. Dr. W. R. Goff then offered the following resolution: "*Resolved,* That the Academy of Medicine of Parkersburg endorse the anti-tuberculosis committee and assist in furthering the campaign in any way it may." The resolution was unanimously carried.

At the close of the business session a buffet luncheon was served by the members of the nursing staff of the Camden Clark Hospital.

B. B. NICHOLSON, *Secretary.*

RALEIGH COUNTY

The Raleigh County Medical Society convened at 7:30 o'clock Thursday evening, April 15 for a dinner meeting in the Beckley Hotel. Dr. L. G. Houser, Beckley, presided, and a goodly number of members were in attendance.

Dr. Albert H. Hoge of Bluefield was the principal speaker and guest. His subject was "Gastro-intestinal Allergy." This was followed by a general discussion.

Dr. R. C. Bunts of Bluefield presented a case report entitled "Patient with Double Kidneys and Four Ureters." This was a very interesting and unusual case.

During the business session Dr. G. P. Daniel was voted on and accepted as a new member of the society.

L. M. HALLORAN, *Secretary.*

GENERAL NEWS

REFRESHER COURSES

The Division of Maternal and Child Hygiene of the State Health Department, cooperating with the West Virginia State Medical Association and component societies contemplates having postgraduate conferences for physicians during the months of July and August, 1937. Last year the conferences were on pediatrics and were chiefly lectures. However, this year some clinical material, motion pictures and slides will be used in conjunction with the lectures, and three days out of the five will be devoted to obstetrics and two for pediatrics.

The conferences are to be held for two or three hours, with a recess period, one day a week for five consecutive weeks. The first three conferences will deal with obstetrics and the last two on pediatrics. These conferences are to begin the week of July 12 and the meetings will be scheduled in the mid-afternoon or evening, as the majority in each society may desire. It is suggested that a conference of one hour be held at 4:30 p. m. followed by dinner and then an hour conference thereafter.

The lecturers will be such men as Dr. James McCord of Atlanta, Georgia; Dr. E. D. Plass of Iowa City, Iowa, and Dr. Lee Palmer of Louisville, Kentucky who are excellent men both in practice as well as lectures. It will be necessary to charge each physician five dollars for enrollment, one-third of which will go to the local society to defray

minor expenses incurred in this work, and two-thirds to help in paying the expenses of the lecturers.

The following towns have been chosen as the locations where these conferences are to be held: Charleston, Parkersburg, Huntington, Logan, Williamson, Bluefield, Welch, Beckley, Lewisburg, Elkins, Romney, Wheeling, Clarksburg, Fairmont and Morgantown.

GOITER ASSOCIATION MEETING

The annual meeting of the American Association for the Study of Goiter will be held at the Book-Cadillac Hotel, Detroit, on June 14-16, 1937. Among the speakers who will appear on the program will be Dr. G. C. Schauffler, Portland, Oregon; Dr. Andre Crotti, Columbus; Dr. Hugo Freund, Detroit; Dr. Saul Hertz, Boston; Dr. Jacob Lerman, Boston; Dr. Joseph L. DeCourcy, Cincinnati; Dr. N. W. Gillette, Toledo and Dr. Arnold S. Jackson, Madison, Wisconsin.

The complete program for the meeting, together with any other information desired, may be secured by writing the corresponding secretary of the organization, Dr. W. Blair Mosser, Kane, Pennsylvania.

GRADUATE FORTNIGHT

For the Annual Graduate Fortnight of The New York Academy of Medicine a subject of outstanding importance in the practice of medicine and surgery is selected and is presented from as many angles as possible. It offers to the profession a resume of the present knowledge of the subject so that the practitioner may be so informed.

The Tenth Annual Graduate Fortnight will be held November 1 to 12 and will be devoted to a consideration of "Medical and Surgical Disorders of the Urinary Tract." The subject will include Bright's disease, arterial hypertension, and infections, tumors, calculi and obstructions of the urinary tract, and will exclude venereal disease, diseases of the genitalia and gynecology.

Twenty important hospitals of the City will present coordinated morning and afternoon clinics and clinical demonstrations. At the evening meetings prominent clinicians of New York and many of the other leading medical centers of this country who are recognized authorities in their special fields will discuss the several aspects of the general subject.

A comprehensive exhibit of books, pathological and research material, diagnosis, treatment and prevention whenever possible, clinical and laboratory diagnostic methods, x-rays, action of drugs and other therapeutic measures. Demonstrations will be held at regular intervals.

COMMUNICATIONS

HONORARY MEMBERSHIPS

To the West Virginia Medical Journal:

The West Virginia Medical Association has 1223 members. (There are 569 doctors who do not belong.)

There are 55 honorary members. These are the men past sixty-five years old, and have been members for at least twenty-five years, and have been elected honorary members from their own county societies.

This honorary membership was bestowed upon them for their long and energetic membership in organized medicine. This honorary membership does not mean they are better than other doctors, but calls attention to the long and faithful work they have done in helping to make our Association among the best in the land.

I sent a card to each society in the State. I find only a few societies that have honorary members degraded. Their annual dues are remitted. Up until last year the honorary members had all the rights and privileges of all other members. Yet last year the Association degraded all these old workers and standbys by cutting off their right to take active part in the business affairs of the Association—mere visitors to the business meetings.

Shall the Association pile all these old warhorses in the junk pile and pass them by as mere mollycoddles? Shall we say to them: "You have been active for over a quarter of a century, and have always stood up for aggressive advancement of organized medicine, but we don't need you now, as you are in your dotage and we are better off without you."

Shall our Association keep these old veterans permanently out of organized medicine, or shall we restore them to the high standing from which they were cast last year?

Respectfully,

C. H. MAXWELL, M. D.,
Morgantown, W. Va.

CONVENTION PROGRAM

Official Call

To the Officers and Members of the West Virginia State Medical Association

The seventieth annual session of the West Virginia State Medical Association will be held in Clarksburg, West Virginia from Monday, May the twenty-fourth to Wednesday, May the twenty-sixth, Nineteen hundred and thirty seven

The House of Delegates will convene on Monday evening for the transaction of routine business and Tuesday evening for election of officers

The council will meet on Monday, May the twenty-fourth at 2:30 oclock P. M.

All Sectional Meetings will be held on Monday, May twenty-fourth

The Scientific Assembly will open with the General Meeting on Tuesday morning, at 10:00 A. M.

Attest
Joe W. Sadage
Executive Secretary

W. S. Fulton
President

WEST VIRGINIA HEART ASSOCIATION
(In cooperation with Section on Internal Medicine)

Harrison County Court House
(Directly across the street from Stonewall Jackson Hotel)

Monday Morning, May 24
9:30 A. M.

President—Dr. H. R. Sauder, Wheeling.
Secretary—Dr. R. J. Condry, Elkins.

"The Use of Diuretics."
Dr. R. J. Snider, Wheeling.

"Bundle Branch Block."
Dr. Louis F. Bishop, Jr., New York City.

(Business Meeting and Election of Officers will follow Scientific Meeting)

SECTION ON SURGERY

Ballroom, Stonewall Jackson Hotel

9:30 A. M., May 24, 1937

Chairman—Dr. R. H. Edwards, Welch.
Secretary—Dr. L. M. Halloran, Beckley.

"Spinal Anesthesia."
Dr. W. L. Van Sant, Hinton.
Discussion:
Dr. O. D. Barker, Parkersburg.

"The Treatment of Fractures."
Dr. John H. Wagner, Pittsburgh, Pa.
Discussion:
Dr. E. Bennette Henson, Charleston.

"Delayed Union and Pseudarthrosis in the Treatment of Fractures."
Dr. Justus C. Pickett, Morgantown.
Discussion:
Dr. J. O. Rankin, Wheeling.

"Management of the Handicapped Goitre Patient."
Dr. Robert King Buford, Charleston.
Discussion:
Dr. H. S. Keister, Fairmont.

(Election of Officers)

EYE, EAR, NOSE & THROAT SECTION

Dixie Room, Stonewall Jackson Hotel

Monday Morning, May 24
9:30 A. M.

Chairman—Dr. J. E. Blaydes, Bluefield.
Secretary—Dr. George Traugh, Fairmont.

"Diagnosis and Treatment of Inflammatory Lesions of the Oropharynx."
Dr. deWayne G. Richey, Pittsburgh, Pa.
Discussion:
Dr. Ivan Fawcett, Wheeling.
Dr. Wes C. Thomas, Huntington.

"Magnetizable Intraocular Foreign Bodies."
Dr. I. D. Cole, Clarksburg.
Discussion:
Dr. E. C. Hartman, Parkersburg.
Dr. R. A. Tomassene, Wheeling.

"Resume of 100 Consecutive Mastoidectomies."
Dr. J. K. Stewart, Wheeling.
Discussion:
Dr. Welch England, Parkersburg.
Dr. Russell Wolfe, Elkins.

"Nystagmus and Some Aspects of Labyrinthine Diseases."
Dr. V. E. Holcombe, Charleston.
Discussion:
Dr. J. E. Blaydes, Bluefield.

(Election of Officers)

SECTION ON PEDIATRICS

Dixie Room, Stonewall Jackson Hotel

Monday Afternoon, May 24
2:00 P. M.

Chairman—Dr. A. A. Shawkey, Charleston.
Secretary—Dr. Raymond Sloan, Huntington.

"Appendicitis in Young Children."
Dr. Theresa O Snaith, Weston.

"Prevention of the Appetite Problem in Childhood."
Dr. J. L. Blanton, Fairmont.

"Pediatric Responsibility in Health Education."
Dr. H. R. Casparis, Nashville, Tennessee.

RECESS

Dinner—Dixie Room, Stonewall Jackson Hotel

6:00 P. M.

"Allergy."—Round Table Discussion.

Led by Dr. H. R. Casparis, Nashville, Tennessee

(Election of Officers)

SECTION ON INTERNAL MEDICINE

Ballroom, Stonewall Jackson Hotel

Monday Afternoon, May 24
2:00 P. M.

Chairman—Dr. R. J. Condry, Elkins.

Secretary—Dr. Oscar B. Biern, Huntington.

"Gastrointestinal Types of Allergy."

Dr. Albert H. Hoge, Bluefield.

"Newer Aspects of Gall-Bladder Disease of Practical Import."

Dr. Moses Paulson, Baltimore, Maryland.

"Fugitive Arrhythmias."

Dr. Louis F. Bishop, Jr., New York City.

(Election of Officers)

GENERAL CONVENTION PROGRAM

Ballroom, Stonewall Jackson Hotel

TUESDAY MORNING, MAY 25, 1937

CALL TO ORDER

Dr. W. S. Fulton, President, Wheeling.

INVOCATION — Reverend Nelson H. Thorne, Clarksburg.

ADDRESS OF WELCOME—Dr. E. B. Wright, Clarksburg, President Harrison County Medical Society; Mr. Lawrence R. Lynch, President Clarksburg Chamber of Commerce.

RESPONSE—Dr. Robert J. Reed, Jr., Wheeling.

SCIENTIFIC PROGRAM

Dr. deWayne G. Richey, Pittsburgh, Pa.

Discussion:

Dr. F. O. Marple, Huntington.

"The Mental Health of Children."

Dr. H. R. Casparis, Nashville, Tennessee.

"An attempt will be made to outline how mentally adequate older children and adults are built up out of infant material. The preventive aspects of poor mental health will be emphasized, and practical methods for carrying out this preventive work will be discussed."

Discussion:

Dr. H. E. Baldock, Charleston.

TUESDAY AFTERNOON, MAY 25, 1937

"The Surgical Problems of the Ductless Glands."

Dr. Dean Lewis, Baltimore.

Discussion:

Dr. W. W. Strange, Huntington.

"The Prevention of Heart Disease."

Dr. Louis F. Bishop, Jr., New York City.

"The present status of the prevention of heart disease from the standpoint of etiology. Survey of the campaigns by the heart associations; the role of the insurance companies. The pictorial approach in the prevention of heart disease. International aspect."

Discussion:

Dr. Harold Jones, Montgomery.

ORATION ON MEDICINE

"The Value of the Sedimentation Rate in Medicine."

Dr. Oscar B. Biern, Huntington.

"Complications of Peptic Ulcer."

Dr. Lemuel C. McGee, Elkins.

"Pyloric Obstruction—Excessive continued gastric secretion—Perigastritis and periduodenitis—Peritastric and periduodenal abscess—Hour-glass deformity of the stomach—Perforation—Massive hemorrhage."

Discussion:

Dr. Fred A. Brown, Huntington.

TUESDAY EVENING, MAY 25, 1937

Ballroom, Stonewall Jackson Hotel
Eight O'clock

PRESIDENT'S ANNUAL ADDRESS

Dr. W. S. Fulton, Wheeling, President
West Virginia State Medical Association

NOTE: The House of Delegates will convene immediately following the Presidential Address for the purpose of electing officers for the ensuing year.

WEDNESDAY MORNING, MAY 26, 1937

Ballroom, Stonewall Jackson Hotel
9:30 O'clock

"A Plea for Early Diagnosis of Malignancy."

Dr. J. E. Wilson, Clarksburg.

Discussion:

Dr. H. D. Gunning, Ronceverte.

"Toxic Effects of Carbon Dioxide."

Dr. Ralph M. Waters, Madison, Wisconsin.

Discussion:

Dr. E. B. Tucker, Morgantown.

ORATION ON SURGERY

"Pain in Abdominal Crisis."

Dr. B. H. Swint, Charleston.

WEDNESDAY AFTERNOON, MAY 26, 1937

Two O'clock

"Vaginal Bleeding in the Last Trimester of Pregnancy."

Dr. Norris W. Vaux, Philadelphia, Pa.

"The success or failure of any method devised for the relief of the serious complications of hemorrhage in the last trimester of pregnancy is dependent upon the accurate diagnosis of the complication, the immediate hospitalization and consideration of the treatment for preventing shock and sepsis."

Discussion:

Dr. W. W. Point, Charleston.

"Syphilis and the Cardiovascular System."

Dr. C. G. Willis, Huntington.

"This discussion of syphilis of the cardiovascular system will deal mainly with the pathology, symptoms relative to diagnosis and general management of this condition."

Discussion:

Dr. A. Spates Brady, Jr., Charleston.

"Pneumococcic Empyema with Special Reference to Early Drainage."

Dr. William L. Cooke, Charleston.

"Emphasis was placed on delayed drainage to such an extent during the war, that drainage in penumococcic empyema is often delayed longer than necessary. Cases are reviewed and causes of mortalities discussed in relation to type of treatment."

Discussion:

Dr. David Salkin, Hopemont.

ANNUAL CONVENTION BANQUET

Ballroom, Waldo Hotel

May 26, 1937 Seven O'clock

Speaker—Dr. Thomas Parran, United States Surgeon General.

Subject—"Public Health Control of Syphilis"

CONVENTION DANCE

Ballroom, Stonewall Jackson Hotel

10 p. m. Until Closing

WEST VIRGINIA SOCIETY INDUSTRIAL PHYSICIANS & SURGEONS

Waldo Hotel

Sunday Afternoon, May 23
4:30 P. M.

President—Dr. George Fordham.

Vice President—Dr. Philip Prioleau.

Secretary—Dr. E. Bennette Henson.

"The Diagnosis and Treatment of Industrial Dermatoses."

Dr. Lester Hollander, Pittsburgh, Pa.
(Lantern Slides)

"Some Helpful Points in Industrial Surgery."

Dr. L. A. Whitaker, Weirton.

Motion Pictures of Some Advances in First Aid.

A short recess for dinner.

Immediately after the dinner is served:

"Treatment of Injuries of the Hand and Foot."

Dr. J. Huber Wagner, Pittsburgh, Pa.

Election of officers.

Selection of next meeting place.

W. VA. SOCIETY OF OBSTETRICIANS AND GYNECOLOGISTS

Dixie Room, Stonewall Jackson Hotel

Thursday Morning, May 27, 1937
8:30 A. M.

Business Session.

President's Address—
Dr. Harry G. Steele, Bluefield

"Operative Intervention in Obstetrics."

Dr. Norris W. Vaux, Philadelphia, Pa.

"Ectopic Pregnancy."

Dr. Gilbert A. Ratcliff, Huntington.

"Abdominal Pregnancy Near Term."

Dr. Wilbur E. Hoffman, Charleston.

"Cesarean Section."

Will A. Cracraft, Wheeling.

M. B. Williams, Wheeling.

RECESS

Luncheon—12:30 o'clock, Dixie Room.

Round Table Discussion.

"Obstetrical Analgesia and Anesthesia."

Led by Dr. Norris W. Vaux, Philadelphia, Pa.

GUESTS OF HONOR

Dr. Lester Hollander, Pittsburgh, Pennsylvania.
Dr. J. Huber Wagner, Pittsburgh, Pennsylvania.
Dr. Louis F. Bishop, Jr., New York City.
Dr. H. R. Casparis, Nashville, Tennessee.
Dr. Moses Paulson, Baltimore, Maryland.
Dr. deWayne G. Richey, Pittsburgh, Pennsylvania.

Dr. Norris W. Vaux, Philadelphia, Pennsylvania.
Dr. Dean Lewis, Baltimore, Maryland.
Dr. Ralph M. Waters, Madison, Wisconsin.
Dr. Thomas Parran, Washington, D. C.

LOCAL CONVENTION COMMITTEES

General Convention Committee — Chairman, Dr. C. O. Post; Members—Dr. J. E. Wilson and Dr. F. V. Langfitt.

Hospitality—Dr. H. E. Sloan, Dr. B. S. Brake, Dr. G. F. Evans, Dr. E. F. Wehner, Dr. S. S. Hall, Dr. H. H. Haynes, Dr. J. S. Maloy, Dr. W. W. Spelsburg, Dr. A. J. Kemper.

Parking and Transportation—Dr. J. F. Williams, Dr. J. E. Stevenson and Dr. H. V. Thomas.

Decoration—Dr. W. H. Riheldaffer, Dr. H. H. Easker and Dr. R. B. Linger.

Golf—Dr. S. S. Hall, Dr. Earl Flowers and Dr. I. D. Cole.

Entertainment—Dr. W. T. Gocke and Dr. A. T. Post.

Publicity—Dr. G. F. Evans and Dr. Creed C. Greer.

EXHIBITORS

Kloman Instrument Company, Charleston.
Mellin's Food, Boston, Massachusetts.
Fischer Corporation, Glendale, California.
Robert A. Fulton Company, Pittsburgh, Pa.
Hynson Wescott & Dunning, Baltimore, Maryland.
Feick Brothers, Pittsburgh, Pennsylvania.
General Electric X-ray Corporation, Chicago, Illinois.
Borden Company, New York City.
Lederle Laboratories Incorporated, New York City.
West Virginia State Pharmaceutical Association, Clarksburg, W. Va.
H. G. Fischer & Company, Chicago, Illinois.
Kelley Koett Manufacturing Company, Covington, Kentucky.
Coca Cola, Atlanta, Georgia.
A. S. Aloe, St. Louis, Missouri.
Westinghouse X-ray Company, Incorporated, Long Island City, N. Y.

ANNOUNCEMENTS

All general scientific sessions of the Association will be held in the ballroom of the Stonewall Jackson Hotel.

There will be a meeting of the Association Council at 2:30 o'clock on Monday afternoon, May 24, at the Stonewall Jackson Hotel and thereafter at the call of the chairman.

The *House of Delegates* will meet for the purpose of transacting business and hearing reports on Monday evening, May 24, in the ballroom of the Stonewall Jackson Hotel.

A second meeting of the *House of Delegates* will be held on the evening of May 25, immediately following the President's Address, for the purpose of electing officers for 1937 and to transact unfinished business from the previous session.

All members of the Association, their wives, and guests are requested to register immediately upon arrival in Clarksburg. The registration desk will be on the first mezzanine floor of the Stonewall Jackson Hotel.

The *West Virginia Heart Association* will meet in the Harrison County Courthouse directly across from the Stonewall Jackson Hotel on Monday morning, May 24, at 9:30 a. m.

The *West Virginia Society of Industrial Physicians and Surgeons* will meet in the Waldo Hotel, Sunday, May 23, at 4:30 o'clock.

The *West Virginia Obstetrical and Gynecological Society* will meet in the Stonewall Jackson Hotel, Thursday morning, May 27.

The *Section on Surgery* will meet in the Stonewall Jackson ballroom on Monday morning, May 24, at 9:30 o'clock.

The *Section on Pediatrics* will meet in the Dixie Room of the Stonewall Jackson Hotel on Monday afternoon, May 24, at 2 o'clock. Dinner will be served at 6:30 p. m. to members of the Section.

The *Section on Internal Medicine* will meet in the Stonewall Jackson ballroom on Monday afternoon, May 24, at 2 o'clock p. m.

The *Eye, Ear, Nose and Throat Section* will meet in the Dixie Room of the Stonewall Jackson Hotel on Monday morning, May 24, at 9:30 a. m.

The annual *Association Golf Tournament* will be in charge of Dr. Sobisca S. Hall, Dr. Earl N. Flowers and Dr. I. D. Cole. Members are required to bring their club handicaps certified by their club professionals. Trophies and awards will be presented at the Convention banquet.

The annual *Convention Banquet* will be held at the Waldo Hotel beginning at 7 o'clock p. m. The Convention ball will be held in the ballroom of the Stonewall Jackson Hotel following the banquet.

. . . PROGRAM . . .

Thirteenth Annual Meeting

WOMAN'S AUXILIARY WEST VIRGINIA STATE MEDICAL ASSOCIATION

HEADQUARTERS—STONEWALL JACKSON HOTEL

CLARKSBURG, MAY 24, 25, 26, 1937.

MONDAY, MAY 24, 1937

2 o'clock—Stonewall Jackson Hotel

Registration.....Fifty cents

3 o'clock—Court House

EXECUTIVE BOARD MEETING

Presiding.....Mrs. A. H. Stevens

7 o'clock—Gore Hotel

Dinner—Tickets, Registration Desk...One dollar

TUESDAY, MAY 25, 1937

9 o'clock—Stonewall Jackson Hotel

FORMAL OPENING OF CONVENTION

Presiding.....Mrs. A. H. Stevens

Invocation.....Mrs. T. M. Hood, Clarksburg

Address of Welcome.....Mrs. A. J. Kemper, Lost Creek, President, Harrison County Auxiliary

Response.....Mrs. D. S. Hess, Holden

Introduction of Mrs. J. E. Page, General Convention Chairman.

"In Memoriam".....The Roll Call of Counties Mrs. W. A. Welton, Fairmont

MINUTES TWELFTH ANNUAL MEETING.
ROLL CALL.
REPORTS AND RECOMMENDATIONS.

Recording Secretary.....Mrs. W. O. Grimm
Corresponding Secretary.....Mrs. E. P. Smith
Treasurer.....Mrs. Robt. Reed, Jr.
Auditor.....Read by Recording Secretary

STANDING COMMITTEES (Five Minutes)

Exhibits.....Mrs. E. C. Hartman
Historian.....Mrs. S. S. Hall
Hygeia.....Mrs. H. P. Evans
Legislation.....Mrs. M. I. Mendeloff
Organization.....Mrs. E. H. Starcher
Parliamentarian.....Mrs. C. L. Parks
Press and Publicity.....Mrs. G. A. Ratcliff
Program.....Mrs. H. V. Thomas
Public Relations.....Mrs. J. H. Anderson
Southern Medical.....Mrs. B. S. Preston

PRESIDENTIAL ADDRESS AND REPORT.

OLD BUSINESS	BUDGET COMMITTEE
NEW BUSINESS	ELECTIONS COMMITTEE
ANNOUNCEMENTS	RESOLUTIONS COMMITTEE

TUESDAY AFTERNOON, MAY 25, 1937

1 o'clock—Gore Hotel

Luncheon—Tickets, Registration Desk. Fifty cents
Presiding.....Mrs. A. H. Stevens
Guest Speaker.....Dr. W. S. Fulton
President, W. Va. State Medical Association

Guests—Doctors Charles G. Morgan, J. H. Anderson, R. J. Armbrecht, A. H. Stevens, Advisory Board; Mr. Joe W. Savage, Executive Secretary, W. Va. State Medical Association.

2:30 o'clock—Stonewall Jackson Hotel

ROUND TABLE DISCUSSION

Presiding. Mrs. A. H. Stevens, Mrs. E. H. Starcher

Roll Call of Counties for Auxiliary Credits.

Question Box.

"Program Building".....Mrs. V. E. Holcombe
Program Chairman for the Woman's Auxiliary to the American Medical Association

4 o'clock—Clarksburg Country Club

COMPLIMENTARY TEA

Hostesses.....Harrison County Auxiliary

TUESDAY EVENING, MAY 25, 1937

8 o'clock

OPEN MEETING
West Virginia State Medical Association

WEDNESDAY, MAY 26, 1937

8:30 o'clock

PAST PRESIDENT'S BREAKFAST
Gore Hotel

Committee...Mrs. F. V. Langfitt, Mrs. S. S. Hall

10 o'clock—Stonewall Jackson Hotel

GENERAL MEETING

Presiding.....Mrs. A. H. Stevens

MINUTES.

Report of Committee on Credentials and Registration.....Mrs. J. E. Wilson

ROLL CALL OF DELEGATES.

TREASURER'S REPORT.

PRESENTATION OF BUDGET.

REPORTS OF COUNTY PRESIDENTS:

Boone.....Mrs. W. V. Wilkerson
Cabell.....Mrs. W. O. Grimm
Fayette.....Mrs. F. S. Harkleroad
Harrison.....Mrs. W. W. Spelsberg
Kanawha.....Mrs. Robert B. Price
Logan.....Mrs. J. L. Patterson
Marion.....Mrs. E. P. Smith
McDowell.....Mrs. J. H. Anderson
Mercer.....Mrs. Thurman Vass
Ohio.....Mrs. George L. Vieweg
Wood.....Mrs. A. D. Knott

DISCUSSION.

Old Business.

New Business.

Report of Nominating Committee:
Mrs. A. D. Knott, Mrs. E. H. Starcher,
Mrs. R. H. Walker.

Election of Officers.

Installation of Officers.

Courtesy Resolutions.

Minutes.

WEDNESDAY AFTERNOON, MAY 26

1 o'clock—Stonewall Jackson Hotel

Luncheon—Tickets, Registration Desk. Fifty cents

Presiding.....Mrs. A. H. Stevens

Guest Speaker.....Mrs. Frank N. Haggard
San Antonio, Texas, President, Woman's Auxiliary to the Southern Medical Association.

Subject.....“Sustained Effort”

Presentation of Mrs. E. H. Starcher, President for 1937-1938.

ADJOURNMENT—SINE DIE.

POST CONVENTION BOARD MEETING

(*Time and Place to be Announced*)

Presiding.....Mrs. E. H. Starcher

WEDNESDAY EVENING, MAY 26, 1937

Annual Convention Dinner and Dance

PAST PRESIDENTS

Mrs. A. G. Rutherford.....Nolan
Mrs. B. S. Preston.....Charleston
Mrs. R. V. Shanklin.....Gary
Mrs. J. P. Lilly.....Charleston
Mrs. Walter C. Swann.....Huntington
Mrs. S. S. Hall.....Clarksburg
Mrs. Howard T. Phillips.....Wheeling
Mrs. Frank V. Langfitt.....Clarksburg
Mrs. M. F. Petersen.....Charleston
Mrs. S. M. Prunty.....Parkersburg

ADVISORY BOARD

Dr. R. J. Armbrecht — Dr. A. H. Stevens
Dr. J. H. Anderson — Mrs. S. M. Prunty

OFFICERS

President.....Mrs. A. H. Stevens
President-elect.....Mrs. E. H. Starcher
First Vice President.....Mrs. F. S. Harkleroad
Second Vice President....Mrs. R. S. Coffindaffer
Third Vice President.....Mrs. B. O. Robinson
Recording Secretary.....Mrs. W. O. Grimm
Corresponding Secretary.....Mrs. E. P. Smith
Treasurer.....Mrs. Robt. Reed, Jr.

CONVENTION COMMITTEES

General Chairman.....Mrs. J. E. Page
Credentials and Registration...Mrs. J. E. Wilson
Doctors' Hobbies.....Mrs. George F. Evans
Exhibits.....Mrs. T. M. Hood
Finance.....Mrs. R. B. Linger
Flowers.....Mrs. W. T. Owens
Headquarters.....Mrs. D. P. Cruikshank
Hospitality.....Mrs. H. H. Esker
Publicity.....Mrs. C. C. Jarvis
Transportation.....Mrs. C. F. Fisher

WOMAN'S AUXILIARY

FAYETTE COUNTY

The Fayette County Medical Society Auxiliary met on April 15, in the Mountainair Hotel in Mt. Hope for a one o'clock luncheon. Mrs. F. S. Harkleroad, president, conducted the meeting which was particularly well attended.

A general discussion of such topics as public health work, *Hygeia*, state and national medical journals, news letters, etc., was held. Members discussed better ways and means of informing themselves on the above topics.

During the business session the following delegates to the State Convention at Clarksburg were appointed:

Delegates: Mrs. F. S. Harkleroad, Mrs. H. F. Troutman, Mrs. C. W. Stallard.

Alternates: Mrs. H. C. Skaggs, Mrs. George Fordham.

Election of officers was as follows:

President, Mrs. H. F. Troutman, Page; president-elect, Mrs. B. F. Brugh, Montgomery; first vice president, Mrs. E. B. Thompson, Montgomery; second vice president, Mrs. Ralph Hogshead, Montgomery; third vice president, Mrs. G. G. Hodges, Kilsythe; treasurer, Mrs. D. W. Shirkey, Montgomery; recording secretary, Mrs. C. W. Stallard, Montgomery; corresponding secretary, Mrs. R. D. Ketchum, Longacre.

Committees: Public relations—Mrs. H. C. Skaggs, Montgomery; legislative—Mrs. George Fordham, Powellton; exhibits and scrapbook—Mrs. Gilbert Daniel, Alloy; historian—Mrs. S. W. Price, Scarbro; doctor's hobbies—Mrs. R. S. Peck, Cannelton.

Fayette County Auxiliary is very proud of the fact that their president, Mrs. F. S. Harkleroad, has been nominated as president-elect of the State Auxiliary.

The Auxiliary will hold its next meeting at the home of Mrs. George Fordham at Powellton.

MRS. G. G. HODGES, *Secretary*.

LOGAN

The Auxiliary to the Logan County Medical Society met on April 6, at the home of Mrs. B. C.

HYCLORITE

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Harris. Mrs. L. E. Steele assisted Mrs. Harris as co-hostess.

Mrs. J. L. Patterson presided over the meeting. Eighteen members were present. Mrs. J. W. Carney spoke to the group on "The Life of John Gory"—an inventor.

During the business session officers for the coming year were elected.

President, Mrs. D. S. Hess; first vice president, Mrs. D. T. Moore; second vice president, Mrs. V. A. Deason; third vice president, Mrs. J. W. Thornbury; secretary, Mrs. J. W. Carney; treasurer, Mrs. C. A. Martin.

MRS. T. L. ROUND, *Secretary.*

McDOWELL COUNTY

The Auxiliary to the McDowell County Medical Society met on April 14 at the Appalachian Club Rooms in Welch, W. Va. Mrs. J. Howard Anderson presided over the meeting. Seventeen members and two visitors were present.

A general discussion of Auxiliary affairs took the place of the regular program. The following committee was appointed to take care of nominations: Mrs. G. L. Straub, chairman; Mrs. R. V. Shanklin, Mrs. N. F. Coulon.

A letter was written to the president of the McDowell County Woman's Club offering the services of the Auxiliary members for the Crippled Children's Clinic, to be held in Welch, April 28.

The following delegates were appointed to attend the State Meeting in Clarksburg, May 24, 25, 26: Mrs. J. Howard Anderson, Mrs. R. D. Clarke, Mrs. H. P. Evans.

Alternates: Mrs. E. E. Vermillion, Mrs. C. R. Hughes, Mrs. A. T. Repass.

The next meeting of the Auxiliary will be held in the above-mentioned Club Rooms on May 12.

MRS. H. P. EVANS, *Secretary.*

PARKERSBURG ACADEMY

The Auxiliary to the Parkersburg Academy of Medicine met on Tuesday, April 13, at the Chancellor Hotel for luncheon and a business meeting.

Mrs. Arthur D. Knott, retiring president, conducted the meeting and read an invitation from

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J. Ross Hunter, M. D., F. A. C. S.
I. P. Champe, Jr., M. D.
W. O. McMillan, M. D.

Obstetrics:
U. G. McClure, M. D.

Obstetrics and Gynecology:
F. A. Clark, M. D.

Eye, Ear, Nose and Throat:
V. E. Holcombe, M. D.

Roentgenology:
V. L. Peterson, M. D.

Internal Medicine:
H. L. Robertson, M. D., F. A. C. P.
William C. Stewart, M. D.

Medicine and Pediatrics:
Hugh G. Thompson, M. D.

Orthopedic Surgery:
Randolph L. Anderson, M. D.

Urology:
Thomas G. Reed, M. D.

Pathology:
M. Gillies, M. D.

Resident Physician:
H. W. Ward, M. D.

McMillan Hospital Training School; Sara Hamilton, R. N., Supt. of Nurses; Alma McKay, R. N., Asst. Supt.
Miss Myrtle Mullins, Instructress :::: Winifred McWhirter, Night Supervisor.

the Superintendent of the Camden-Clark Memorial Hospital asking the Auxiliary to assist in the opening of the newly remodeled Camden-Clark Hospital on May 12, National Hospital Day. It was accepted and the members decided to have their next regular meeting on May 4, one week earlier than the regular time because of the hospital opening.

The following officers were elected for the ensuing year:

President, Mrs. O. D. Barker, Parkersburg; first vice president, Mrs. R. D. Lattimer, Parkersburg; second vice president, Mrs. Rosea Rymer, Harrisville; corresponding secretary, Mrs. B. O. Robinson, Parkersburg; recording secretary, Mrs. William R. Yeager, Parkersburg; treasurer, Mrs. E. W. Crooks, Parkersburg.

Twenty-two members attended the meeting.

MRS. B. O. ROBINSON, *Secretary*.

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THE INDIANA STATE MEDICAL ASSOCIATION

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INDIANA UNIVERSITY SCHOOL OF MEDICINE AND THE LINCOLN HOTEL—TRAVERTINE ROOM

All morning and afternoon sessions will be held at the University Medical School; all evening meetings will be held in the Lincoln Hotel, except the public meeting.

MAY 10 - 14, 1937

	Monday, May 10	Tuesday, May 11	Wednesday, May 12	Thursday, May 13	Friday, May 14
8:00 a. m. to 11:00 a. m.	Registration 8-9 a. m. Clinics on 1. Pediatrics 2. Medicine 3. Obstetrics 4. Gastro-Intestinal Diseases 5. Physical Therapeutics	Clinics on 1. Cardiovascular renal diseases 2. Surgery 3. Gynecology 4. Medicine 5. Otolaryngology	Clinics on 1. Orthopedics 2. Dermatology 3. Roentgenology 4. Surgery 5. Obstetrics	Clinics on 1. Urology 2. Pediatrics 3. Otolaryngology 4. Medicine 5. Neurology and Psychiatry	Clinics on 1. Cardiovascular renal diseases 2. Surgery 3. Dermatology 4. Gastro-Intestinal diseases 5. Ophthalmology
11:00 a. m. to 12:00 noon	Lecture: **Vitamines**	**Therapeutic Aphorisms**	**Modern Treatment of Pneumonia**	**Medical Jurisprudence**	**Urologic and Orthopedic Aphorisms**
1:30 to 2:30 p. m.	Panel discussion on **Pediatrics**	Panel discussion on **Medicine**	Panel discussion on **Surgery**	Panel discussion on **Obstetrics**	Panel discussion on **Therapeutics**
2:30 to 3:30 p. m.	Practical demonstration on **Otolaryngology**	Practical demonstration on **Intravenous Therapy**	Practical demonstration on **Aseptic Technic and Splints**	Practical demonstration on **Obstetrics**	Practical demonstration on **Dermatology and Urethral Instrumentation**
3:30 to 5:00 p. m.	**CLINICAL PATHOLOGICAL CONFERENCES, WITH THE SPEAKER OF THE EVENING TAKING AN ACTIVE PART**				**Voluntary Examination Questions and Answers**
8:00 p. m.	Guest Speaker **Samuel A. Levine, M. D., Boston** Assistant Professor of Medicine, Harvard University Medical School **Cardiology**	Guest Speaker **Vernon C. David M. D., Chicago** Clinical Professor of Surgery, Rush Medical College **Surgery**	Guest Speakers **Nicholas J. Eastman, M. D., Baltimore** Professor of Obstetrics, Johns Hopkins University School of Medicine **Obstetrics** **Frank C. Mann, M. D., Rochester, Minn.** Professor of Pathology, Surgery and Experimental Physiology, University of Minnesota, Graduate School of Medicine **Physiology**	Guest Speaker **Harold N. Cole, M.D., Cleveland** Associate Clinical Professor of Dermatology and Syphilology, Western Reserve University School of Medicine **Syphilis**	PUBLIC MEETING Guest Speaker **Prof. Maude Slye** Associate Professor of Pathology, University of Chicago **Cancer** (Another speaker to be announced later.)

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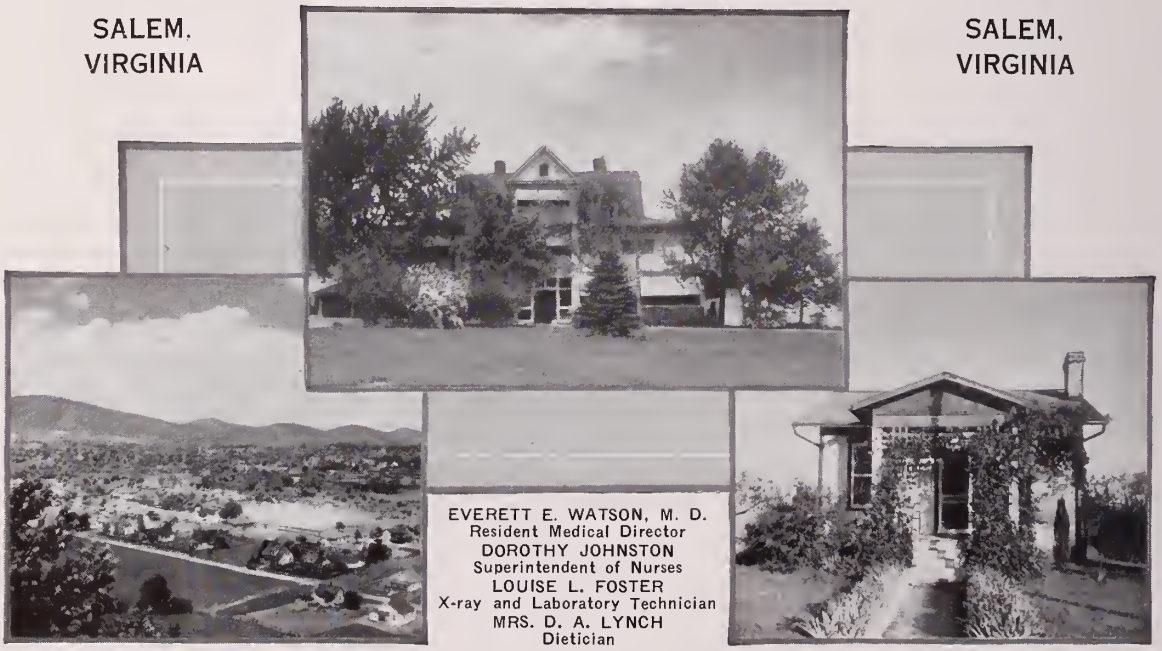

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THE SOCIALIZATION OF MEDICINE*

(President's Annual Address)

By W. S. Fulton, M. D.
Wheeling, West Virginia

It is our privilege, or as some of us who are more pessimistically inclined may say, our misfortune that we live at a time when the normal slow step of evolutionary progress has been changed to a mad, galloping stampede. Just like any other individual the doctor cannot help being subject to the new and powerful influences of modern times. Even now attempts are being made to entice the medical profession as a whole to adopt revolutionary ideas with reference to its position and its functions in the organized state. Even the doctor practicing in the most remote corners of our country has an inkling of the new movement, and though he may be far removed from social security propaganda, sit-down strikes, court reform arguments, night clubs and cocktail parties, he knows and fears that preparations are being made to take him for a ride. He does not know his destination and does not know whether or not the change will be for his benefit and the benefit of his patients.

The doctor more than any other professional man must be progressive. To keep his standing in the profession and in the community he cannot afford to become stagnant. It is essential that he keep himself informed about the continuous progress in medical science. He must be familiar with current medical literature; he must attend medical meetings; he must take postgraduate courses if he would keep pace with medical developments. Today, however, the medical man is confronted with another problem, a sociological problem that is new to him and to which heretofore he has given little consideration. Today his very status in the set-up of our civilized society is questioned. His position as a free and independent member of a time-honored profession is in danger from the insistent propaganda for radical changes in the relationship of the Individual, the Profession, and the State.

The medical profession is in a precarious position. Permit me to describe a picture illustrating the situation. Let us say that

*Read before the Seventieth Annual Meeting of the West Virginia State Medical Association at Clarksburg, May 25, 1937.

all these current ideas about medical reform, health insurance, state medicine, social security are represented by a stormy sea. Tossing on the wild waves is a little boat, and in the boat are three unfortunate doctors. The first one is so concerned about patients who have entrusted their health and their lives to his care that he pays no attention to what is going on. He does not appreciate the dangerous situation. The second one realizes well his predicament, but fear has taken from him all initiative. He scans the horizon pathetically, hoping that help will come miraculously from some unexpected quarter. The third realizes the danger they are in and makes up his mind to help himself and his companions, since no one else seems inclined to do so. He takes a good grip on the rudder, holds the boat against the wind, and tries to out-ride the storm.

That is, figuratively speaking, the situation we are in today, and the earlier every member of our profession realizes that we are all in the same boat, that we are in danger, that the situation has to be met, and that miracles like walking on the waves are not performed in these modern days, the better it will be for us. No one will or can help us if we do not help ourselves. If we let our affairs drift as they have been going, unpleasant things will happen to us and to our profession even before we are consulted in the matter. Our status as members of a free profession will be a thing of the past before we realize what has happened.

Now let us ask the question, what danger is confronting the medical profession? The answer is simple. Very definite plans are under way to socialize the practice of medicine.

The reasons given for this revolutionary interference are that under the present conditions the American people are getting inadquate medical service, that adequate medical service is too expensive and, therefore, is inaccessible to the great percentage of our population, and that in many parts of our country medical service of any kind is not available at all.

This is the tenor of virtually thousands of reports and articles which have appeared during the last ten years. Actually enough money has been spent on surveys to take care of most of the people in need of medical service. But the surveys still go on and on, because it is the business of economists, sociologists, efficiency engineers, and social service workers to make surveys regardless of the discontent which these surveys arouse, the uses of propaganda to which they are put, and their excessive cost, which is far beyond the value of the results that are obtained.

Before going any farther, let us look at our own state and see what the situation is here. It has been my privilege to have served as the Medical Representative on the State Advisory Board for the administration of the Social Security Act. I am glad to say that this Board in considering the medical problems pertaining to care of the aged, blind, crippled, and indigent, has sought the advice of the medical profession and formulated its policies in accordance therewith. Under the provisions of our state plan, the indigent sick who are on our relief rolls receive medical attention from physicians of their own choosing and when necessary are hospitalized in hospitals of their own selection. The physicians and hospitals so chosen receive through the Department of Public Assistance a very small compensation for their services. Formerly the medical profession gave such services without any compensation whatsoever. They are still making a sacrifice in caring for such patients because the fees are merely nominal, but the community as a whole is assuming responsibility for medical charity. We feel that this is proper. The medical profession should not carry the burden alone. The whole community should recognize its obligation to contribute through taxes to the care of those unfortunate citizens who are both ill and indigent. We are rather proud of the West Virginia Plan. Our doctors with few exceptions are coöperating cheerfully. Many details re-

main unsettled, but we feel that there is a bright prospect for the evolution of a satisfactory working scheme. Our doctors look upon the plan as a good one, because it conforms with the ethical principles laid down by the American Medical Association for our guidance in meeting the problems of State Medicine. Let me make it clear that the Department of Public Assistance has for its clients only those who are eligible to the relief rolls. We feel that so far State Medicine, administered in this manner for the benefit of the indigent, is justified. Furthermore, we feel that it is utterly unjustifiable to extend State Medicine so as to have it apply to other groups of individuals who are not in the indigent class. That would mean the socialization of medicine on a pernicious scale. It is this topic, the socialization of medicine, that I wish to discuss with you tonight.

Perhaps the most stupendous legislation ever enacted by an American Congress was the Social Security Act of 1936. In some degree it touches the lives of every American citizen. The sponsors of this Act were of the opinion that social security should include insurance, not only against poverty of old age and unemployment, but also against "the hazards arising out of illness", so the plan ripened to include in the Act a compulsory health insurance program. This compulsory health, or better, sickness insurance part of the Social Security Act was opposed vigorously by organized medicine for reasons which we shall discuss, and so far this opposition has prevented the inclusion of the compulsory sickness insurance proposals. However, the possibility of including them is not considered closed. The Social Security Board has been given a mandate to study the subject further. It is unlikely that such far-reaching health legislation will be introduced during the present session of Congress, but pressure for action is still insistent, and who knows what may happen during the next session?

In this connection I would like to tell you a little bit about the proposed "Sickness Insurance Bill" sponsored by the American Association for Social Security. The provisions of this bill provide sickness insurance for all workers who have an income of under $3,120 yearly with the exception of farm laborers and persons employed in the personal or domestic service of an employer having less than three employees. This insurance could cover approximately 48,531,000 people as a possible maximum if all were employed.

The annual contributions to carry out the scheme would be graduated according to the pay of the worker. An employee would pay $10.40 to $93.60 yearly. The employer would have to contribute $38.80 to $46.80 and the state $15.60 to $46.80 per insured. Three-fourths of the fund is for medical care. The remaining fourth is for cash payments up to $19.50 a week for family heads who are sick and unable to work.

The bill would set up in each state a State Health Insurance Board of five, a State Advisory Council of twelve, and a State Medical Advisory Council of nine members. A state would be divided into districts, each with a full-time medical supervisor and a finance officer. A district would be subdivided into local areas, each with two permanent employees, a council of four appointed members receiving a per diem and expenses, and as many local advisory committees as are necessary with expenses paid. One interesting paragraph in the set-up is as follows: "It (the Board) shall have full investigatory powers and shall have direct access to the sources of all information." It is noted that this proposed bill is designed to prevent the medical profession from having any voice in the management of medical service. The doctor becomes an employee. There is also a deliberate effort made to split the medical profession and thereby weaken its power by isolating the insurance practitioner from the general body of the profession. It seems a fair conclusion that the enactment of this law would completely abolish private practice in industrial districts. There are few provisions to guarantee the character of the service. The American Medical Association, that has an

unequaled record for establishing and maintaining the highest standards of medical service, in this scheme is deliberately excluded from all share in determining and maintaining such medical standards. This plan would substitute a sort of foreman called a "local medical manager" who is to be selected and controlled by the lay supervisors. His principal interest and the interest of his superiors would be in controlling cash expenditures. Experience has shown that any such supervisor is constantly in a state of antagonism to the physicians who render this service. This "medical manager" is empowered to settle all complaints against the physicians and to "supervise and examine into the services rendered", a clause which would make the manager "supervise" the work of the practicing physician. It is introducing factory methods into the practice of medicine and removing the individuality and independence of the practicing physician. The lay employers would have the power to remove any physician from insurance practice, in other words, to "fire" him and deprive him of the right to practice his profession in the only field of practice which will be left to him if this measure becomes a law.

As I said before, speeches and articles on medical reform still appear in unprecedented numbers. Some of the Utopian proposals are so absurd as to appear comical even to the intended beneficiaries as well as the victims.

A short time ago Dr. Watson, a professor of education from Columbia University, spoke in a neighboring city. In addition to the usual attack on organized medicine, he brought forth one "very constructive idea." He would completely socialize the entire medical profession as has been done in Russia, starting with the medical schools. He proposed that the bars be thrown down, and anyone wishing to study medicine might do so at the expense of the taxpayer. According to the learned professor this would soon relieve the grave shortage that exists in the medical ranks and provide sufficient doctors for all the people. He did not say whether or not these factory-made doctors would be superior doctors, but in any event their ministrations would be free for all. Furthermore, the professor would have every doctor upon graduation draw a minimum salary of $3,000 to $3,500 a year, and as he advanced in age, wisdom, and ability, his salary would be increased until as a specialist or surgeon he would draw a salary of $12,000 to $15,000 a year with a month's vacation at full pay and not only the privilege but the obligation to take a postgraduate course every year with full pay. These salaries would be net salaries, the taxpayer gladly assuming all the overhead expenses incident to the practice of medicine. We all know that the professor's plans and ideas are too good to come true. We would rather not go any farther into detail, particularly in regard to the cost to the taxpayer. If you have the time and pencil and paper, figure it out for yourself. The total annual cost of such a plan would amount to billions of dollars. This one illustration serves to show how earnestly and sincerely these reformers have espoused the cause of sickness insurance.

Let us consider now whether or not the proposed socialization of the medical profession in the form of compulsory sickness insurance would remedy the alleged shortcomings of our present system. Is compulsory sickness insurance going to give all the people the best medical service available? Will it give adequate medical service at reasonable costs? Will it bring medical service within the reach of all the people?

When we examine the first question, which implies that everybody must get the best medical service available, we are confronted by the old demagogic claims of social reformers, namely, that every person is entitled to the same advantages and blessings of our civilized world, be it housing, clothing, education, food or any other essential of a healthy life. Even though, we may remark, it would be rather difficult to supply every automobile owner with a Rolls-Royce just because the Rolls-Royce is the best automobile made and every citizen, therefore, should be entitled to

it, we as medical men will all agree that everybody should have the best medical service available. Fortunately, we have no experience as yet in this country with compulsory sickness insurance and its ability to bring this better medical service to all. Therefore, to answer this first question we must turn our eyes to Europe where compulsory sickness insurance was introduced into Germany in 1883 and into England in 1912. Does it give the citizens of these countries the best medical service available? It is interesting to note that the sponsors of similar schemes in this country have never made this clear. Let us see what kind of service these people are getting.

A doctor contracts to treat from 1,000 to 2,500 potential patients. Experience teaches patients to appear early at the doctor's office to get a good place at the head of the line. The reception room is stuffy with the presence of assorted patients in various conditions of health. Finally the doctor appears. The nurse opens the bulky files containing the official records of the cases. The doctor glances hastily at the line of expectant faces for a sign of critical illness. Finding none, he beckons the fortunate person nearest the door. Since he has to see many, the individual patient will at best get a cursory examination, or, if the case is not within the competence of a general practitioner, the patient will be sent to another doctor qualified to give proper treatment and advice. Will the busy insurance doctor always be able to make this decision? Another question, will the doctor supplied by the insurance office be the best man available? If not, the insured has no choice. He has to take the service which he gets. The only other way open is to go to see a private physician and pay the fee out of his own pocket. It is a well-known fact that in England many insured patients come back to the same doctor during his private office hours to talk over their cases for a fee as private patients to a private doctor, with the comforting thought that an inquiring medical officer or commissioner cannot have access to their records. We should not be astonished, therefore, to learn that more than fifty per cent of those patients treated at free clinics in London hospitals are insured patients who find better service in a free clinic than that obtainable from their panel doctor. Six hundred thousand Britishers, compelled to pay premiums for health insurance, thought so little of panel practice that they did not register with insurance committees, thus scorning the medical service for which they had been taxed.

The insurance doctor's time is divided between clerical work and medical diagnosis, ministration to the sick, preventive care and scientific study, but filling out endless blanks and records required by bureaucratic red tape takes a large percentage of his time which could be better utilized. Because the lay supervisors have to watch the outlay of cash, they will emphasize quantity rather than quality of medical service. As a result both in England and in Germany it is a well-known fact that the insurance doctor does not represent the highest type of medical practitioner.

Is it possible, let me ask you, for all patients to get the best scientific service available, either under the present conditions or under an insurance system? Science is continually moving forward, and the great institutions of research are marching along. The medical profession as a whole with its greater bulk is never able to keep step and move at the same rate of speed. That is physically impossible. But the most humble practitioner is following the march of progress just the same, and his medical knowledge and therapeutic armamentarium today is better than that of a clinical professor twenty years ago. In spite of the extravagant claims of medical reformers, it is clearly evident that it is impossible under any system to make the best scientific service available to all of the people at the same time.

Let us now turn to a less theoretical and more practical aspect of the subject and inquire if the American people are really getting such poor medical service. Do you

think that it is purely an accident that statistics, the beloved weapon of our critics, show that we have in these United States today less sickness, a lower infant mortality, and a smaller number of deaths in relation to our total population than any other civilized nation anywhere in the world? How can we reconcile these statistics with the "inefficient, old-fashioned" set-up of our present medical system? I truly believe that this great achievement can be and must be attributed to the industry, the enthusiasm, and the earnestness of our free and independent medical profession. Every member of our profession can be justly proud of our record. I am proud to be an old-fashioned American doctor!

Now to the second question, will compulsory sickness insurance lower the cost of medical care? In an ideal state with an ideal population, everybody working for the common good, all medical service centralized in big clinics, no freedom of choice for patient or doctor, the doctor working on the patient like a mechanic in the assembly line of an automobile plant and the patient being handled like a piece of machinery in the assembly line, I believe the cost of medical care per head per year could be lowered just as by mass production the cost of the automobile has come down. But, is the American public willing to be regimented when sick? Is the doctor willing to apply factory methods when treating his patient? Has the total cost of medical care and sickness been reduced in European countries enjoying the blessings of compulsory sickness insurance? Let me give you a few examples:

There is no doubt that the cost per treatment and the cost of a doctor's visit have been reduced, because these rates can be and are reduced by the insurance board. However, if the number of visits by the doctor, the number of treatments, and the number of days of sickness increase, the total cost per sick patient to the insurance fund will have to increase. That is exactly what is happening. The conclusion is unescapable in the light of the following statistics: An official survey of the insured population of England revealed that in 1933 the annual loss through sickness was twelve and one-half days per worker as against nine days before health insurance was introduced. During the fifty years of the insurance system in Germany the annual loss from sickness has increased from five and one-half days to twenty-eight days per insured. In the United States without an insurance system the loss has remained the same for twenty-five years, six and one-half days..

No one claims that sickness in England or Germany has increased to the extent these figures might indicate. What acually happens is that lazy workers manage to get on the sick roll, because they will be taken care of. They are thereby increasing the per capita cost of medical care for everybody. Just one example to show the extent of malingering: Of 2,008 German insured ordered to final examination to determine whether they were fit to work, 816 immediately decided they had recovered; 289 were found to be well. The same situation is found to exist in England. On the re-examination of 468,000 persons in 1934, 179,000 were declared sick, 289,000 were found to be well. Will conditions like these occur in our country? I think we might just as well admit that it can happen here too. Will the cost of medical care be lower if we have compulsory sickness insurance? The answer is obvious.

Another item charged against the total cost of medical care under an insurance system is the administrative cost. In Germany there are more administrators, stenographers, and clerks employed in the sickness insurance system than there are doctors. If there should be any money saved by the systematic organization of medical care, it will be spent on the organization itself.

One last question pertaining to cost of medical care: Is the present day cost too high for the quality of medical service demanded and is this cost depriving people of necessary medical care? In the olden days when the doctor made most of his diagnoses from what

the patient told him and from such simple examinations as he could make with his five senses, the expense of medical practice was not high. The purchasing value of the doctor's income nowadays is not greater than it was at the time of his predecessors. At present the net income of the average physician amounts to $3,500. It is, however, the refinement of medical diagnosis and therapy which raises the cost to the doctor and subsequently to the patient. Think of the cost of laboratory examinations and of the studies made by the use of the x-ray. Think of the operators necessary to a hospital. The cost of all these improvements—who would like to practice medicine without them?—has to be borne by the beneficiary, the patient. Forty years ago medicine was practiced by the doctors with the aid of a few nurses. Today in addition to the 155,000 doctors in the United States there are about 1,250,000 other people who spend their full time taking care of the sick. These include trained nurses, practical nurses, dietitians, x-ray technicians, laboratory technicians, anesthetists, ambulance drivers, orderlies, hospital clerks, social workers, and innumerable other special employees. Whereas we formerly had less than 1,000 hospitals in the United States, we now have about 7,000 hospitals. Overhead expense in medical practice has become tremendous, and the medical bill has increased proportionately. Nevertheless, the average family is paying only $24.00 per year to the doctor, $10.00 less than for soft drinks and chewing gum. In spite of this fact it cannot be denied that the man whose family medical bill amounts to even less than $24.00 a year or to nothing at all receives medical care superior to that available to the man living in countries where there is compulsory sickness insurance. The American pays for the medical service, if he pays at all, according to his means. It is also a fact that during the last depression, although they were hit as hard as anybody else, doctors continued to give more free service than any other group of citizens. Physicians alone, it has been estimated, provide the sick poor with services valued at $750,000 a day, and the class of service they render is the same to all patients. There is no necessity for any citizen to go without medical service. Let him ask and he shall receive.

Now let us proceed to examine the third claim and see if there are districts where medical service of any kind is unavailable and if compulsory sickness insurance would bring medical service to all the people. A recent article in *The Atlantic Monthly* by Esther Everett Lape, the member in charge of the American Foundation Studies in Government, portrays among other sad pictures the inadequate health provisions in a certain western state. This is supplemented by reports of similar conditions obtaining in the South. She tells of places where people are born, live and die without the assistance of a doctor. Then she adds: "The country physician never refuses a fence of any height; whatever the operation, he does it." Involuntarily a glowing tribute is paid to the unselfish ministrations of the doctor, but at the same time he gets a punch on the nose—"It reveals industry and accomplishment certainly but hardly adequate medical care for the poor." Is it the fault of the hard-working doctor, driving miles and miles over the country, if some people do not call him and the sociologist then finds that they are without medical care? In the same article a Kentucky doctor is quoted as saying that even when a modern highway brings "adequate" medical care almost to the door of some of the natives, they will not build the last mile of road that would connect their cabins with the highway, and, he continues, "They have lots of idle time, idle teams, and certainly plenty of rock to do it with but they just don't and they won't." Furthermore he states: "Not all of those people are desperately poor, as many social workers, calamity howlers, and State Medicine advocates would have one believe. Very few, if any, go hungry. Still fewer suffer from lack of proper clothing, and while they are quite willing to pay good

prices for rattle-trap automobiles, coon dogs, fox hounds, fiddles, banjos, French harps and mean liquor, almost to the last man of them they are not willing to pay a doctor's bill if they can get out of it—if they call the doctor at all."

But do people of these United States get competent medical care? Most authoritative information on this question was gathered by the Committee on the Cost of Medical Care, and it was gathered by social workers certainly not biased in favor of the present medical system. They concluded that 90.2 per cent of the American sick receive competent medical care. The remaining 9.8 per cent are living apparently, as the above reports may indicate, in remote sections of thinly populated western and southern states. If they live in the cities, they may receive excellent medical attention at hundreds of free clinics. If they do not ask for it, can the medical profession be blamed if they do not get it? Would compulsory sickness insurance improve this situation? No, because these people under the proposed set-up would not be insurable. Can the socialized doctor take care of sick people if he is not called? What these people need more than health or sickness insurance is a certain amount of education. When they comprehend the danger of neglected illness and the value of medical care they will call a doctor whether they can pay him or not, just as is done in more progressive sections of the country, and the doctor will answer the call if it is reasonably possible to do so.

This country was settled by men and women who left the oppressive atmosphere and the regimentation of the Old World to conquer by rifle and plough new territory where they could live according to their own desires. They were rugged individualists who lived and let others live as they thought best. They wanted to be free and independent and were willing to fight for their independence. Until recently these basic principles of the forefathers were the fundament of our social and political life. The medical profession as one part of our social structure was more free and suffered less interference than in any other civilized country. The spectacular accomplishments of American medicine were achieved by the medical fraternity itself without the help, promotion, supervision, or subsidy of any governmental agency. The medical profession, unlike any other profession, curtails its own income by setting as its ultimate goal the prevention or mitigation of disease rather than the treatment of disease. The medical profession has always considered it a sacred obligation to help the sick and needy. The medical profession has always been proud of the confidence of those entrusting their lives to its care, and professional secrecy is one of its fundamental, age-old laws. Where will be professional secrecy under compulsory sickness insurance? Where will be this personal relation between doctor and patient if the doctor becomes a disinterested official and the patient one item in his daily routine? Shall the time-tried methods that have served us so well for many years be destroyed? Shall we hastily change from a practical working plan to an ill-considered experiment at the behest of a paternalistic government or by virtue of legislation which is influenced by pamphlets and speeches of professional reformers who try to improve medicine today, make animal traps more humane tomorrow, and the next day seek other worlds to reform and improve? The organized medical profession has reformed itself again and again from within. It is continuously raising its own standards of medical education and training. It is constantly improving its working facilities in hospitals. It is supervising and disciplining its own members in true democratic fashion. It does not need and does not want lay supervision and lay interference between doctors and between the doctor and his patient. The medical profession is not fossilized, and it is not dictatorial. It is conservatively progressive, and above all it wishes to manage its own affairs without lay interference or supervision. Times are changing and experiments

must be made, and the doctor as a true scientist will accept a new truth if proven by experiment. In this spirit in 1934 the House of Delegates of the American Medical Association adopted certain principles as a basis of any social experiments that may be contemplated by constituent bodies of organized medicine. I cannot do better than repeat these principles verbatim.

First: All features of medical service in any method of medical practice should be under the control of the medical profession. No other body or individual is legally or educationally equipped to exercise such control.

Second: No third party must be permitted to come between the patient and his physician in any medical relation. All responsibility for the character of medical service must be borne by the profession.

Third: Patients must have absolute freedom to choose a legally qualified doctor of medicine, who will serve them from among all those qualified to practice and who are willing to give service.

Fourth: The method of giving the service must retain a permanent, confidential relation between the patient and a "family physician." This relation must be the fundamental and dominating feature of any system.

Fifth: All medical phases of all institutions involved in the medical service should be under professional control, it being understood that hospital service and medical service should be considered separately. These institutions are but expansions of the equipment of the physician. He is the only one whom the laws of all nations recognize as competent to use them in the delivery of service. The medical profession alone can determine the adequacy and character of such institutions. Their value depends on their operation according to medical standards.

Sixth: However the cost of medical service may be distributed, the immediate cost should be borne by the patient if able to pay at the time the service is rendered.

Seventh: Medical service must have no connection with any cash benefits.

Eighth: Any form of medical service should include within its scope all legally qualified doctors of medicine of the locality covered by its operation who wish to give service under the conditions established.

Ninth: Systems for the relief of low income classes should be limited strictly to those below the "comfort level" standard of incomes.

Tenth: There should be no restrictions on treatment or prescribing formulated and enforced by the organized medical profession.

Organized medicine does not want to stand in the road of social progress. It is accustomed to meet problems rather than to evade them, but it wants to deal with new ideas in an evolutionary way rather than risk the downfall of a system which has been built up carefully and guarded zealously for two thousand years. Hasty steps may cause untold misery and damage, more likely to the innocent bystander, the patient, than to the doctor. Curiously enough, the one who should be the most interested in this whole controversy, the prospective patient, the public, seems to be very much uninterested. The man who will have to take insurance under the compulsory system will take notice, however, when he will have to surrender a sizable percentage of his wages, the employer when he has to contribute his share, the taxpayer when his taxes will be raised as the result of expenses under this system to the State and Federal Government.

Every time our Government has gone into business the result has been a failure. If you doubt the statement, consider the record of the railroads under Government management. Now it is proposed that the Government go into the practice of medicine. Politics and business is a bad combination. Politics and medicine would be a poisonous mixture. It certainly behooves our lawmakers to stop, look, listen, and consider very carefully before undertaking such a hazardous experiment as the socialization of medicine.

INDICATIONS AND CONTRAINDICATIONS FOR TONSILLECTOMY AND ADENOIDECTOMY*

By T. MARTIN GOODWIN, B. S., M. D.
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DURING the summer we are often asked what are the indications and contraindications to tonsillectomy and adenoidectomy. This being the season for our pre-school clinics and general checking of illness suffered during the winter, many parents ask us if we think their child should have its tonsils and adenoids removed. Tonsillectomy when properly performed is a sure way to eradicate chronically diseased tonsils. A proper operation requires the removal of all of the tissue of the tonsil with the entire capsule.

Below I have listed a set of rules to follow in advising any child or adult as when to and when not to have tonsillectomy and adenoidectomy. According to these rules, which any fair-minded physician is bound to accept as adequate, the family physician or school physician should recommend tonsillectomy and adenoidectomy only:

1. If the child or adult gives a history of repeated attacks of acute tonsillitis or peritonsillar abscess.

2. If the child or adult has suffered from continuous head colds.

3. If the child has obstructive nasal breathing (adenoids).

4. In cervical adenitis, if considered to be definitely resulting from disease of the tonsils, and if all other infections of the mouth have been eliminated.[1]

5. Simple hypertrophic tonsils, when their size is sufficient to impede respiration or swallowing of food.

6. If the child or adult has suffered from an attack of acute catarrhal or suppurative otitis media.

7. If the child is a mouth breather.

8. If the child or adult gives a history of repeated attacks of pharyngitis, laryngitis or bronchitis.

9. If the child gives a history of rheumatism, endocarditis, chorea or nephritis.

10. If it is proven that the tonsils are carriers of diphtheria.

11. If there is evidence of a continuous discharge from the nose not caused by sinusitis.

12. Tuberculous infection in the tonsil, when positively demonstrated, calls for their removal. Great care should be exercised, however, in the selection of cases for tonsillectomy, for these patients may have pulmonary tuberculosis. Ether anesthesia given to a quiescent tuberculous individual may result in a complete relapse and rapid decline. Diathermy is the method of choice in these patients.[2]

13. If the tonsil is "buried" and therefore objectively not visible as a large structure, but shows definite evidence of a diseased condition. These types often show retention of cheesy cholesteatomatous material in the crypts.

Contraindications to Surgical Tonsillectomy: The following rules are considered adequate to advise a patient not to have tonsillectomy or adenoidectomy:

1. The two weeks following the resolution of an attack of acute tonsillitis, or peritonsillar abscess. It is often better to wait six weeks.

2. The period of convalescence after any debilitating disease is not a suitable time for tonsillectomy or adenoidectomy.

3. Hemophilia or other blood dyscrasias.

4. Active syphilis or tuberculosis.

5. The period just preceding or during menstruation.

*From the Golden Clinic of the Davis Memorial Hospital, Elkins.

6. Cases of chronic arthritis which show changes in the joints.

7. An abnormal course of arteries, especially the internal carotid coursing in close proximity to, or even in the substance of the tonsil itself.[3]

8. Hypertension with a systolic pressure of 200 millimeters or more is an absolute contraindication.

9. Cardiac involvement is not an absolute contraindication, but the choice of anesthetic and the time for operation should be decided after medical consultation.[4]

10. If the patient has been exposed to any contagious disease, it is advisable not to operate until the termination of the incubation period of this disease.

11. Mouth pathology should be eliminated before operation.

12. Sinus or nasal disease should be cleared up before tonsillectomy is undertaken. Otherwise the postnasal drippage might infect the operative wounds.[5]

13. All loose teeth should be extracted by a dentist before tonsillectomy.

14. If the patient shows any degree of anemia and an examination of the blood shows a marked diminution of the number of red cells, a lowered percentage of hemoglobin, and a delayed clotting time, longer than six minutes, I believe operative interference should be postponed until these conditions are decidedly improved.[6]

15. In children an enlarged thymus must be excluded, and one must beware of acidosis.

REFERENCES

1. Imperatori and Burman: Diseases of the Nose and Throat, p. 376.

2. Imperatori and Burman: Diseases of the Nose and Throat, p. 376-77.

3. Jackson, Coats: The Nose, Throat and Ear and Their Diseases, p. 297.

4. Imperatori and Burman: Diseases of the Nose and Throat, p. 377.

5. Imperatori and Burman: Diseases of the Nose and Throat, p. 377.

6. Jackson, Coats: The Nose, Throat and Ear and Their Diseases, p. 297.

THE USE OF PROTAMINE ZINC INSULIN IN THE TREATMENT OF DIABETES

By M. I. MENDELOFF, M. D.
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THE discovery of insulin by Banting and Best was heralded as the greatest achievement in medicine in the first quarter of the twentieth century. Though the results obtained were miraculous there were certain features which made the medical profession search for a better preparation to make the effect of the drug more desirable. The greatest drawback to the use of insulin has been the rapid absorption which gave rise to unpleasant symptoms of hypoglycemia and for this reason the drug had to be administered very frequently.

In order to find means to retard the rapid action of the insulin a number of physicians began combining insulin with certain metals and to try various other means of bringing about reduction in absorption rate. Various procedures were tried and suggested, such as injecting the insulin into adipose tissue, mixing insulin with gum arabic, combining it with various proteins, oil and lecithin, or by combining it with pituitrin and adrenalin. Finally they tried combining it with metals, such as ferric chloride and zinc. Hagedorn and his co-workers at last succeeded in delaying the absorption of insulin by combining it with protamine derived from the sperm of fish. Later Scott found that when zinc was added to the insulin its action was retarded and thus prolonged, and that with excessive amounts its action could be entirely blocked. After

trial and experimentation the present preparation has been developed and it is at present being placed on the market by various commercial houses as a fairly stable preparation containing small amounts of zinc. The physician, before using it, should familiarize himself with the directions given with every package.

The introduction of protamine zinc insulin has simplified further the treatment of diabetes. The incidence of hypoglycemic reactions is reduced to almost zero, and the dose of the insulin protamine can be stepped up without fear until a suitable dose is obtained to control the glycosuria and the hyperglycemia. When giving protamine insulin you observe, if you study the course of the blood sugar, that you do not have any sharp peaks such as are seen in about three or four hours after administration of ordinary insulin, for the action of protamine is more prolonged, the blood sugar is reduced gradually and tendency to hypoglycemia is lessened. In many cases smaller doses of protamine are required and the frequency of injections reduced.

Joslin in his report on the first one hundred cases of diabetes treated with protamine zinc insulin states that no patient developed coma of acidosis, no deaths were recorded, and no other complications developed. The patients were made more comfortable as they could take care of more carbohydrates without showing glycosuria. Joslin usually gives the regular insulin in the evening and the protamine in the morning, or he frequently combines them by giving it in the morning. When both forms of insulin are used the sugar is reduced more effectively. He also states that when fasting blood sugar is high it is best to use the old insulin. The importance of observing the diet and the exercise is stressed. Another feature in the use of protamine is that it is not essential for it to be administered so many minutes before meals. In giving the protamine it may take one or two days before the sugar disappears from the urine, and for this reason it is not wise to depend upon an isolated urinalysis.

Another welcome feature has been that instead of three or four injections which were required when the old insulin was used, only one or at most, two injections are required. This has been confirmed by many physicians, and my own experience bears it out.

Rabinowitch treated only severe diabetes with protamine, the high carbohydrate low calorie diet being employed. In most of the cases one injection was needed to control the disease, and even when large doses were used, no reactions occurred. When persistently low blood sugar readings were obtained the dosage was reduced.

F. M. Allen believes that protamine insulin is more suitable to the most moderate grades of diabetes, while in severe cases he prefers the old insulin.

In view of the fact that protamine has the advantage of slow absorption, the use of it in children has been of great benefit. Gladys Boyd (*Journal of Pediatrics*, 1936) has employed it in twenty-five children. While before protamine was used, an average of four injections were required, equally good or even better results were obtained with only two injections. In Copenhagen and Boston the routine in the use of it in children is to give an evening dose of ordinary insulin and use protamine in the morning. Patients who required eighty to one hundred units of old insulin in three or four injections were controlled with two doses of forty units of the new insulin. In addition, the reactions were less severe and less frequent. The carbohydrate tolerance has not been influenced as the action is slow, and for this reason it is contraindicated when a quicker action is desired, such as in coma.

Wilder and associates at Mayo Clinic believe that the prolongation of the action of protamine insulin is longer than had been supposed. They believe that a single dose may extend even into the third day. Along with other investigators they found the decline of blood sugar to be gradual, and the

reactions to be less violent. It was observed at Rochester that though acidosis should be treated with old insulin, in two cases with threatened coma, protamine was given in fifty unit doses and then the patients were treated with regular insulin in the conventional manner. When that was done, less frequent doses were required and the duration of the acidosis was shortened. The same was observed in acute infections complicating diabetes when administration of protamine has been helpful to insure continuous insulin activity.

Myers and Perkins used protamine as a supplement to regular insulin in the treatment of diabetic coma. One patient who before required twenty doses of regular insulin amounting to three hundred units was brought out from coma by a single dose of one hundred units of protamine, supplemented by two doses of regular insulin amounting to seventy units.

Moses Barron states that protamine should not be given alone since the action is too slow and the patient's life may be endangered in time of emergency.

In acute infections increase the amount of protamine.

My own experience comprises eight cases, five males and three females, with ages ranging from twenty-six to sixty-eight. A brief report is herewith given. All these were private patients and were treated ambulatory.

First Case: Male, age sixty-two, diabetes for six years. Physical examination showed prostatic hypertrophy. Urine shows three plus sugar with Benedict's reagent. Blood sugar fasting 178 mgs. for 100 cc. of blood. On appropriate diet continued to excrete sugar in large amounts. Was placed on insulin, twelve units a day—seven in the morning and five at night, but glycosuria was not controlled and he continued to lose weight and strength. In September was placed on ten units of protamine once a day, which was later increased to twelve and then to fifteen units once a day to be given in the morning. On this regimen, urine remained sugar free most of the time. Last fasting blood sugar taken in January was 120 mgs., there has been a gain of eight pounds, and the patient states that he has felt better since taking this form of insulin.

Second Case: Male, age twenty-six, diabetes of two years standing. Blood sugar, fasting 220 mgs. per 100 cc. of blood. When first seen was taking ten units of regular insulin in the morning and fifteen in the evening. Glycosuria not controlled. Is not adhering to diet and complains of frequent attacks of weakness. Was placed on fifteen units of protamine once a day given in the morning, and diet given to secure reduction in weight. On this plan glycosuria better controlled with disappearance of hypoglycemic reactions. Last blood sugar was 146 mgms. fasting.

Third Case: Male, age forty-three, diabetes for twenty years, a very difficult patient to handle on account of poor cooperation. Does not adhere to diet and is markedly overweight. Has taken insulin spasmodically and shows sugar in the urine constantly. Blood sugar, fasting about 200 mgs. Recently showed up with secondary lesions of lues, with a four plus Wassermann and Kahn. Was placed on fifteen units of regular insulin to be taken in the evening and fifteen units of protamine in the morning. Though careless about his diet, his glycosuria is fairly well controlled. Last fasting blood sugar was 140 mgs. Patient is receiving anti-luetic treatment.

Fourth Case: Male, age fifty-eight, has had diabetes for twenty-five years. Fasting blood sugar 146 mgs. Has been receiving twenty units of regular insulin in twenty-four hours, but the glycosuria was not controlled. Frequent attacks of hypoglycemic reactions complained of. Was put on one morning injection of fifteen units of protamine and has gained some weight and feels much stronger. Glycosuria is controlled more effectively and when observing his diet his urine remains free from sugar. Recently

underwent an operation for acute appendicitis without any complications.

Fifth Case: Female, age sixty-nine. While undergoing physical examination diabetes was found, also luetic aortitis with marked arteriosclerosis. Fasting blood sugar 220 mgs. Was put on appropriate diet but glycosuria was not controlled. Regular insulin ten units in the morning and ten in the evening did not control the glycosuria effectively. Protamine was given fifteen units in the morning, glycosuria definitely controlled; the dose of protamine decreased and finally stopped. At present is receiving no protamine and has gained some weight. There is no sugar in the urine, and last fasting blood sugar was 122 mgs. Recently developed an upper respiratory infection during which glycosuria appeared and this was effectively controlled with few doses of protamine.

Sixth Case: Male, age sixty-four, with history of diabetes over twenty-five years. In addition to his diabetes has aortic regurgitation with positive Wassermann and Kahn. This patient has been treated by Dr. Allen with starvation treatment and when insulin was introduced he commenced taking it three times a day, a total of sixty units a day. His glycosuria was not controlled and his fasting blood sugar was around 200 mgs. per cent. When protamine was substituted for regular insulin he complained of painful injections and it was given up. During the last two months has had congestive failure from which he has been slowly recovering. In the past two weeks protamine has been used—twenty units in the morning and twenty units at night, which has controlled his glycosuria effectively, and the injections are no longer painful. At present he is receiving twenty-five units of protamine only once in the morning and the urine remains free from sugar.

Seventh Case: Female, age sixty-six, has had diabetes for four years. In addition to diabetes has a hypertensive heart and healed tubercular lesion of right upper lobe. This patient weighed ninety-eight pounds when first seen, and the fasting blood sugar was 276 mgs. Regular insulin, twenty units twice a day did not control the glycosuria, and she had frequent attacks of hypoglycemic shock. Continued to lose weight and strength. Protamine was substituted for regular insulin, taking twenty-five units (15-10) a day. Has gained weight and strength and at present has no more weak spells.

Eighth Case: Female, age twenty-four; gives history of diabetes of four months' duration. Also has chronic salpingitis. Fasting blood sugar 160 mgs. Required thirty-six units of old insulin a day (12-12-12) to control the glycosuria and this control was not effective. She was placed on twenty-four units of protamine (12-12) and the urine shows only occasionally a trace of sugar.

Summary: Of the eight cases treated, one at present is free from glycosuria, with normal blood sugar and does not require any insulin. Four patients who were taking from twenty-five to forty units of insulin two or three times daily are at present receiving one morning dose of protamine with good control of glycosuria and blood sugar. Of the remaining three, and these are the most severe cases, the dose of protamine is much less than the dose of old insulin, besides the frequency of injections has been reduced.

Discussion: The treatment of diabetes with protamine insulin opens up new fields of possibilities. This has been observed particularly when dealing with the severe type. With regulation of the diet and with a proper dosage of the protamine insulin you can control the severe cases very effectively. Besides the convenience of reducing the frequency, and the unit dosage, it is of considerable importance when dealing with individuals who are compelled to be away from their homes or from their office. Another favorable observation has been the less frequent occurrence of hypoglycemic reactions.

In my cases one discontinued the use of the protamine insulin as the urine has been continuously free from sugar and the blood sugar has been reduced to about normal. Of the other seven, only one at present is taking

protamine twice a day, the other six are receiving one injection, usually in the morning and are free from glycosuria if they adhere to their diets with a reasonable degree of strictness. Three of my patients who heretofore have been losing weight have been able to gain weight and strength. They all attest very loudly to the general improvement since taking protamine insulin. There have been no complications observed which could be traced directly to the diabetes itself, as for instance, no case of coma or gangrene was encountered, though three of the patients were in the seventh decade.

The general comfort in all patients under treatment has been noticeably improved, besides the convenience observed among those who found the morning dose desirable.

In conclusion, I would like to stress the following:

1. Protamine zinc insulin is the greatest medical boon to the diabetic next to the discovery of insulin.

2. By its use it is possible to decrease the amount of insulin and the frequency of the injections.

3. As a result of slow absorption it is safer to use and the tendency to reactions is lessened.

4. By virtue of the slow absorption it is particularly adapted to the treatment of diabetes in children.

5. The concensus of opinion among clinicians at present is that protamine should be combined with regular insulin. This I seriously question as my experience leads me to believe that protamine alone will control very effectively most cases of diabetes.

6. When coma is present regular insulin should be used, as the action of protamine is too slow. Even in this condition a preliminary large dose of protamine will reduce the amount and frequency of old insulin necessary to control the acidosis.

7. My own experience leads me to recommend it as a great improvement over the old insulin in the routine management and treatment of uncomplicated diabetes.

BETTER OBSTETRICS*

By HARRY G. STEELE, M. D.
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A FEW doctors interested in obstetrics and gynecology assembled at the Fort Henry Club, Wheeling, West Virginia, May 7, 1935 and organized a society whose purpose is to encourage better and more scientific work in these specialties as practiced throughout the State of West Virginia. We believed that such an organization would promote harmony and more enthusiastic interest among its members; awaken the profession, as well as the laity, to the great importance of more careful and more scientific obstetrical care; and, thus improve appreciably the morbidity and mortality rate in these two branches of medicine.

At this meeting certain aims and objects were set forth which we, as a group, were to strive to accomplish. Some of these goals are as follows:

(1) Each member should make a careful study of his cases and should keep a complete record of them.

(2) He should report a clinical case to his county medical society as often as he can obtain a place on the program.

(3) He should write several papers on obstetrical or gynecological subjects each year and present them to his own local society, state association, or other organized medical group meetings.

(4) He should submit to the State

*President's Address, First Annual Meeting of the W. Va. Obstetrical and Gynecological Society, Fairmont, W. Va., June 11, 1936.

Medical Journal Publication Committee carefully prepared articles pertaining to these specialties. If worthwhile, they will gladly be accepted for publication.

(5) When a member desires to appear on a medical society program, his president will be glad to assist in placing him on the program of some medical society in the state.

(6) He should, at his earliest convenience, notify the secretary of this society as to which of the specialties—obstetrics or gynecology—he is especially interested in. This information is to be used for classification of members.

(7) He should assist the members of his society and all other practitioners in every way possible.

(8) He should, if possible, attend recognized obstetrical and gynecological clinics once or twice a year.

(9) Each member should consider himself to be a committee of one to select those physicians in his community who are interested in gynecology and obstetrics and submit their names to the society for election to membership.

In February, 1936, the following members made a pilgrimage to Philadelphia to attend a series of special clinics arranged by your president: Dr. H. E. Beard and Dr. E. J. Humphrey, both of Huntington; Dr. Walter W. Point of Charleston, Dr. A. M. Dearman of Parkersburg and myself. As Dr. Point wrote me after our return from Philadelphia, "I never saw so much interesting work jammed into such a short period of time." You members who did not avail yourselves of this splendid opportunity missed a wonderful experience. The clinics were held on Tuesday and Friday at the Obstetrical Department of Jefferson Medical College and Hospital by Dr. P. Brooke Bland and associates; on Wednesday at Philadelphia Lying-In Hospital, by Dr. Norris Vaux and his associaties; and on Thursday at the University of Pennsylvania Department of Obstetrics and Gynecology, under Dr. Charles C. Norris and his associates.

Restriction of time and space precludes a detailed account of the great variety of both obstetrical and gynecological work which was so generously and so graciously prepared and presented for our benefit. It was the universal comment of the visiting group that every phase of obstetrics was demonstrated in one or more of the clinics or ward rounds—prenatal care; delivery; analgesia; anesthesia; postpartum care of the mother; care of the new-born; together with the diagnosis and treatment of complications, both maternal and infant.

The field of gynecology was covered equally as thoroughly. Demonstrations of the diagnosis and treatment of the common office gynecological problems, ranging from non-specific leucorrhea to malignancy, and including a demonstration of the colposcope; the Friedman test for pregnancy; use of the electrocautery; diagnosis and treatment of trichomonas vaginalis and monilia infections. These were thoroughly enjoyed by all of us.

It was also the universal comment of the group that nothing was spared by our hosts to make the visit not only profitable but pleasant. Each day at noon found our visiting group as luncheon guests of the head of the demonstrating staff at the hospital visited that day. We were seated among groups of the visiting staff and so placed that no two of we West Virginians were together. Each of us was introduced to everyone present and a delightful luncheon was served.

Throughout our stay in Philadelphia we inherently felt welcome and realized that leaving our individual practices to brush up on work in the two specialties impressed these internationally recognized men with the fact that none of us was satisfied with our own mental equipment and experience. This was attested by Dr. Norris Vaux when we were his guests at a lecture and demonstration on forceps late Wednesday afternoon. His class was composed of Jefferson seniors and we were assigned reserved seats. At the outset of his lecture, Dr. Vaux introduced us individually to the class and using our group as an

example, admonished them to never fail to go to one of the recognized medical centers at least once each year. He complimented us for appreciating the rapid advances in obstetrics and gynecology and our desire to leave our work for the purpose of seeing and learning the newer developments in our specialties.

As the first president of your society, I have given much thought to its possibilities as an incentive for our doing better work in obstetrics and gynecology. Accordingly, I wish to recommend to you the following suggestions as a guide:

(1) Each year every member will read at least one lately published book on obstetrics.

(2) We will subscribe to and read each month, *The American Journal of Obstetrics and Gynecology*, or as many articles dealing with our specialties, as can be found in other journals.

(3) We will endeavor to have our members appear, as frequently as is fair to the other branches of medicine, on the program of our local societies.

(4) We will encourage one or more physicians in our respective communities to specialize in, or devote particular attention to, the practice of obstetrics.

(5) We will encourage, wherever possible, the appointment of a qualified obstetrician to the staff of every general hospital in the state.

(6) We will endeavor to arrange this year a course of lectures on obstetrics for the benefit of as many practitioners as can be conveniently grouped together in given locations. This work possibly can be arranged through our State Department of Health, or through a Federal Agency.

(7) We will give, whenever it is feasible, talks on prenatal care before Parent-Teacher Associations and other civic organizations, as well as suitable articles on the same subject for publication in the lay press.

(8) We will take advantage of the State Department of Health's willingness to furnish free literature to all maternity patients.

(9) We will organize and direct, wherever advisable, prenatal and postnatal clinics in our respective communities.

(10) We will assist in the organization and maintenance of public or private agencies which will furnish nursing service and supplies to needy obstetrical patients.

(11) We will endeavor to make a pilgrimage each year to a recognized maternity center.

There are many other suggestions which could appropriately be offered but I feel that if this organization accomplishes even a few of these objects herein outlined, the results would easily justify its existence.

CARRYING THE PEOPLE'S BURDEN

What is the public reaction to efforts being made by the medical profession to eradicate quackery and the vicious practices of certain cults? Unfortunately, there are a number of persons who view them as an attempt by physicians to promote their own financial interests.

Were he primarily concerned with his personal welfare the doctor might well ignore the activities of cultists. He knows only too well that persons suffering from organic ailments will eventually need his services; further, that the greater the delay, the larger his compensation. But the physician's conscience will not permit needless suffering. He is under obligation not only to cure but to prevent unnecessary illness, seeing to it that all weapons against disease known to science are made available to everyone.

What people will believe, even in this enlightened day, is, indeed, pathetic. Not so long ago the courts in a certain state held that a widely-advertised light apparatus had no scientific value. Newspapers throughout the country carried the "story", yet people still are being "taken in" by this device.

A supposedly successful cultist in a midwestern city insists that germs do not exist. His contentions are so ridiculous that it is difficult to believe he is given serious consideration. Yet he has followers and on occasion appears before governmental bodies where he is given respectful hearing.

Until such time as the public understands and accepts the basic truths of medical science, so long will quackery flourish. Undoubtedly, there always will be those who believe in the impossible. For them safeguards should be set up by law.—*Bulletin, Medical Society, County of Monroe (N. Y.)*

FRACTURES OF THE ELBOW*

By RANDOLPH L. ANDERSON, M. D., B. S., F. A. C. S.
Charleston, W. Va.

FRACTURES about the elbow joint are common. They occur frequently in children and in adults. In many instances, these cases are treated by general practitioners. The chances of complications are great and their influence on the end results may be considerable. A poor result in an elbow fracture may lead to a considerable disability of the whole extremity.

Briefly, a few salient anatomical facts about the elbow joint will be reviewed. First, that part of the joint between the humerus and the ulna is a hinge joint. Secondly, the joint between the ulna and radius, on the other hand, is a swivel joint. Next, a normal elbow has a so-called "carrying angle." This means simply that the arm and forearm do not meet in a straight line of 180°, but instead do meet at an angle of 165° with the angle open outwards.

In a clinical examination of the elbow, the olecranon process of the ulna and the epicondyles of the humerus are readily palpable. Normally, with the elbow at right angles, an equilateral triangle is formed between these three structures with the oleocranon the apex of the triangle. When the elbow is in full extension however, these three landmarks are practically in a straight line.

There are many important structures about the elbow joint. The most important nerves are the median, radial and ulna. Of these the ulna is the most vulnerable to injury in elbow fractures.

The brachial artery is in close proximity to the front of the lower humerus and may be injured or compressed at times. The median basilic and median cephalic veins are susceptible to trauma.

The biceps muscle anteriorly and the triceps posteriorly play an important röle in the mechanics of fractures about this region.

The following types of fractures are to be considered here:

I. Fractures of the lower end of the humerus.

1. Supracondylar fractures.
2. Intercondyloid or "T" fractures.
3. Fractures of a single condyle.
4. Fracture of an epicondyle.
5. Epiphyseal separation.

II. Fracture of the head and neck of the radius.

III. Fractures of the olecranon process of the ulna.

First, let us outline briefly, a few important points regarding supracondylar fractures of the elbow. These fractures are common in childhood and are usually caused by a fall on the outstretched hand with the elbow hyperextended.

The lower fragment is almost constantly displaced posteriorly or backwards by (1) the original fracturing force, and (2) the strong pull of the triceps muscle. Occasionally, however, the lower fragment is displaced anteriorly when the fall is on the flexed instead of the hyperextended elbow.

The diagnosis may be confused with a posterior dislocation of the elbow and an x-ray examination should be made if possible before any manipulation is begun.

Treatment should be prompt and the fracture handled as a surgical emergency. An anesthetic must be used, which may be local or general according to the desire of the surgeon and the circumstances surrounding the patient. Personally, I use evipal in adults and older children, and ether in the younger

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children. Reduction is accomplished usually by traction, then hyperextension of the elbow, followed by flexion.

Fixation of the fracture is accomplished usually by a posterior molded plaster splint with the elbow in flexion. Either a Velpeau dressing or a plaster spica joins the elbow to the body.

The tests of reduction are (1) the carrying angle is the same on the affected as on the unaffected side with the elbow extended; (2) approximately complete flexion should be gotten; (3) the radial pulse should be palpable.

It is most important to keep in mind constantly the importance of retaining a proper circulation. The elbow should never be flexed to a point beyond which there is an absence of a full-bounding radial pulse. If the swelling and interference with the circulation do not permit of proper reduction and fixation, then elevate the elbow and wait until definitive treatment is feasible.

Ordinarily, I leave the plaster splint on without removing it for three weeks. Then the splint is removed entirely and a wrist sling is applied for another week. Baking, massage and active motion are begun after three weeks. In my hands, this routine has given the best results.

The prognosis is good in these cases if (1) reduction is reasonably accurate; (2) reduction is performed gently, and (3) passive motion is not used.

Intercondyloid or "T" fracture will next be considered briefly. These fractures usually occur in adults by (1) a fall on the point of the elbow, or (2) a severe direct blow as in automobile injuries or after jumps, as in athletic events.

The fragments of the lower humerus are spraddled usually and the diagnosis may be made by the mushy feel of the fragments.

Treatment is best carried out by the use of skeletal traction through the olecranon process of the ulna with the elbow flexed to right angles. This may be accomplished by means of a Hoke splint attachment incorporated in a plaster spica with traction of the integral type rather than with weights. Usually this is preferable to keeping a patient flat in bed for a long period of time with weight traction. At times, an open reduction must be performed to replace a fragment which may have been displaced at an angle with the other fragments causing an unusual amount of spraddling of the fragments. An open reduction ordinarily is difficult and is not indicated as a routine procedure.

The prognosis of these cases depends chiefly upon the accuracy of reduction.

Fractures of a single condyle of the humerus are important. The lateral condyle is more commonly fractured than the medial. These fractures may be caused by (1) a fall on the outstretched arm, (2) a direct blow, (3) or a fall on the flexed elbow. This latter trauma usually results in a fracture of the medical condyle.

The fractured condyle is ordinarily displaced upwards and forwards and frequently is rotated. The diagnosis may be made by palpating the displaced fragment as separated from the shaft and also by the change in the normal joint axis. In rare instances displacement is nil or very slight. Here, to place the elbow in acute flexion and to retain it in position with a molded plaster splint is all that is necessary. Usually, however, there is displacement and rotation. In these cases an open reduction is performed, followed by a plaster cast.

Fracture of the epicondyles are not uncommon and they may be serious. They occur from: (1) direct violence, (2) abduction or adduction strains on the lateral ligaments of the elbow joint.

The displacement of the epicondyle may be slight. On the other hand, it may be considerable, especially in fracture of the internal epicondyle. The epicondyle may be pulled downwards and forwards by the group of flexor muscles attached to it. Diagnosis is made by palpation of the displaced fragment and by x-ray examination. If the displace-

ment is slight, a posterior molded plaster splint with the elbow in flexion for about three weeks suffices to give a good result.

It must be emphasized here, however, that displacement may be considerable and the loose fragment may act as a block to flexion of the elbow. In these cases an open reduction is performed. It has been found that a small wire nail fixes the fragment more successfully and easily than any other method used. The end of the wire nail is left just beneath the skin and is removed after three weeks. The elbow is fixed in moderate flexion with a molded posterior plaster splint and a Velpeau bandage.

The prognosis is good in the operative cases except when associated with other injuries, such as dislocation, in which case motion may be limited permanently.

Separation of an epiphysis of the lower humerus occurs only in childhood, usually between five and ten years. It is a fairly frequent lesion caused by a direct fall on the elbow. The epiphysis frequently is displaced backwards and may be tipped upside down. At times diagnosis may be difficult in cases with only slight displacement, and in these cases particularly, both elbows should have a röentgenographic examination. When the displacement is slight, fixation in acute flexion alone is necessary. If there is marked displacement, an open reduction must be performed, followed, of course, by fixation.

The prognosis in these cases must be guarded since the growth centers may be affected by the trauma. This may lead to deformity as well as functional impairment.

Fracture of the head and neck of the radius occurs almost always in adults, but may occur in children. This injury occurs usually as a result of severe trauma or a fall on the outstretched hand. The proximal or head fragment may or may not be displaced. If impacted, the displacement is slight. Frequently, the fracture is a comminuted one. Diagnosis is made by well localized tenderness over the head of the radius with pain on supination or pronation of the forearm.

Where there is none or slight displacement, the arm and forearm are placed in flexion in a molded posterior plaster splint for about three weeks, followed by a sling for one week. The splint is removed daily. Baking and light massage and active motion are begun practically from the start. This routine is most important. If the displacement is of any consequence, operative removal of the head is performed, followed by early active motion.

Fracture of the olecranon process of the ulna is much more common in adults than in children. It is caused by a fall on the outstretched hand with the forearm semi-flexed on the arm. The fracture is transverse ordinarily and the degree of separation of the fragments varies. Diagnosis is made by the localized swelling over the olecranon process, a groove felt often between the fragments, and weak extension of the forearm.

If there is no displacement, fixation at right angles for four to six weeks suffices. If there is displacement, operative repair should be carried out, the fragments approximated and fixed with kangaroo tendon, fascia lata or a portion of the triceps tendon used as a suture. These fractures should always be fixed at right angle flexion and should never be treated in full extension as it is most difficult to flex the elbow after prolonged fixation in extension.

Errors to be avoided particularly in the treatment of elbow fractures are:

1. Neglect to examine for motor and sensory disturbances.

2. Neglect to palpate the radial pulse.

3. Neglect to have x-ray examinations before and after reduction.

Dangers in treating these fractures are especially:

1. Volkmann's paralysis.
2. Ossifying hematoma.
3. Excessive callus.
4. Injury to the ulnar nerve.

Summary: A brief study of the more com-

mon injuries about the elbow joint is made with special reference to the problem as faced by the general practitioner, who must treat many of them. An outline of treatment is given in each type of fracture.

BIBLIOGRAPHY

1. Wilson and Cochrane: *Fractures and Dislocations.*
2. Kessler: *Industrial Injuries.*
3. Key and Conwell: *Fractures, Dislocations and Sprains.*
4. Cotton: *Dislocations and Joint Fractures.*
5. Bohler: *Treatment of Fractures.*

NASAL ALLERGY*

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THE incidence of nasal allergy has been reported by several workers. Hansel[1] found that of 1,000 patients seen in routine office practice, there were 324 with all types of nasal complaints, and among these 142 had nasal manifestations of allergy. In other words, about one-third of the patients had primary nasal complaints and 44 per cent of these had nasal allergy. The incidence of allergy among all patients was 14.2 per cent. Baum[2], according to a recent report, found that among 2,000 similar patients, 700 or about one-third had primary nasal complaints, 191 of which were found to be due to nasal allergy. Baum found, therefore, that 27.3 per cent of the patients with nasal complaints had allergy, and that the incidence of allergy in an otolaryngologic practice is about 10 per cent.

In a review of the cases of 514 patients seen in the Department of Allergy at the Cleveland Clinic during a six months' period in 1933, 326 or 63 per cent had, as major complaints, pollinosis, bronchial asthma, allergic bronchitis, perennial nasal allergy, and nasal allergy and sinusitis. In a review of cases of allergy seen in 215 children in 1934 and 1935, upper respiratory and respiratory allergy were noted in 166 or 77 per cent. An analysis of 1174 consecutive new patients in the Department of Allergy during 1935 was made in an effort to classify the presenting major problems. Of these patients, 640 or 55.4 per cent had major problems of respiratory allergy, which included seasonal and perennial nasal allergy, nasal allergy and sinusitis, bronchial allergy, both asthma and bronchitis, and 534 or 44.6 per cent had symptoms of cutaneous, ocular, cerebral or gastrointestinal allergy. This large incidence of respiratory allergy is due to several factors chief of which is the interest that has been created in the study of respiratory allergy in otolaryngology, and secondly to the climatic conditions prevailing in the region of the Great Lakes.

Normal Histology of the Mucous Membrane of the Nose and Paranasal Sinuses: The mucous membrane of the nose and paranasal sinuses is divided into parts controlling the respiratory and olfactory functions. Only a small portion of each nasal fossa is concerned with the functions of the olfactory sense.

The part controlling respiratory functions consists of normal epithelium of the stratified, ciliated, columnar type which is comprised of tall surface cells bearing cilia and irregular supporting columnar cells. The surface of the epithelium is interrupted by outlets of the glands. Varying numbers of goblet cells appear between the ciliated cells. The epithelium undergoes changes according to the presence of infections, irritants, etc., and then cuboidal, stratified cuboidal, squamous or transitional types are found.

Beneath the normal epithelium is the basement membrane, which is thin and collagen-

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ous in character and probably originates from connective tissue. These cells stain poorly. This layer is perforated with fine openings to permit the passage of leukocytes and tissue fluids.

The tunica propria, or stroma, extends from the basement membrane to the bone. This is a network of blood vessels, lymphatics, nerves, glands, and certain cellular elements. It is divided into three parts—(1) the subepithelial, which consists of a fine capillary network, and lies between the basement membrane and the area of the glands; (2) the area of the glands; (3) the portion from the area of the glands to the periosteum and vascular zone which contains large blood vessels and cavernous sinuses. The vascular supply is deep, periosteal, glandular, and subepithelial capillary. Innervation of this blood vessel system is derived from two sources—the vasoconstrictors which are derived chiefly from the cervical sympathetic system, and the vasodilator fibers which come mostly from the vidian nerve.

Three types of glands are present—the mucous, serous, and mixed. These are lined with mucous and serous secreting cells and by means of small ducts they open upon the free surface of the epithelium.

The cavernous spaces represent the venous plexus and assume the character of erectile tissue. They are especially well developed along the dependent border of the inferior turbinate and posterior extremity of the middle turbinate and along the adjacent portions of the nasal septum. Circular and mid-longitudinal bundles of smooth muscle are embedded in the walls of the venous channels and are enmeshed in connective tissue stroma. These are controlled by nerve reflexes which influence the filling and emptying of these spaces.

The paranasal sinuses, which are lined with mucous membrane, are continuous with the nasal fossa and are characterized by thin membrane, few glands, and no characteristics of erectile tissue.

Histopathology of Allergy: The changes which characterize the histopathology of allergy are well exemplified in the specific changes caused by allergy in the nasal mucous membrane and paranasal sinuses. Therefore, a brief review of these changes will illustrate the characteristic histopathologic findings of nasal allergy. Kline and Young[3] of Cleveland have considered the changes in allergic tissues as reversible or irreversible. In the reversible type there is resorption of edema which leaves no permanent change in the tissues. In the irreversible type, chronic edema and certain other changes in the tissue become permanent in nature. However, for practical purposes, further study must be made of allergic disease of the nasal passages, a review from the standpoint of allergy alone not being sufficient. This is necessitated because secondary or superimposed infections and other irritating factors as well as allergy influence the permanent changes.

The work of several investigators has shown that the reactions due to allergy are dependent upon the degree of sensitivity of the tissues and the shocking dose of the offending allergen. The tissue changes may, therefore, vary from simple edema with eosinophilic infiltration, which has a tendency to resorb, to permanent changes with chronic edema and eosinophilic infiltration plus inflammatory changes which are the result of degeneration and necrosis, as noted in the Arthus' phenomenon. It must be noted that certain inherent tendencies appear to be present in the tissues of individual patients as far as the degree of edema or capillary permeability is concerned. The degree of sensitivity of the tissues rather than the nature of the offending allergen must play the most important part in this process. Kline and Young[3] have emphasized that this inherent and individual sensitivity of tissues must also be a factor in the determination of the nature of the secondary changes which occur in the blood vessels and other structures of the mucous membrane. This explains in part the tendency for sudden and extreme reactions of

edema to develop quickly in the tissues of certain individuals whereas, in other persons, prolonged exposure to the same allergens does not produce such marked changes.

It must also be borne in mind that the histologic nature of the paranasal sinuses is of such character as to influence the development of extensive edema and formation of polyps. The entire thickness of the mucous membrane may become involved in the edematous process so that the whole sinus cavity is occluded. This is particularly true of the anterior cells of the ethmoids and the tissues of the antrum. The tendency for edema to form near the ostia is noted and this is due to the looseness of the mucous membrane at this location.

Eosinophilic infiltration is the second characteristic reaction of tissues in the presence of allergy. Although considerable difference of opinion is expressed as to the formation of eosinophils, it is generally conceded that they form in the bone marrow and that blood eosinophilia is only an index of the number of cells in transit from the bone marrow to the tissues suffering from allergic shock. There is no constant relationship between the degree of blood eosinophilia and the symptoms of the patient. This can be said in part of tissue eosinophilia, there being no absolute index after the allergic reaction is firmly established.

It is to be noted that the cellular changes of a secondary character, such as the presence of lymphocytes, plasma cells and monocytes, are likewise noted in small amounts in the tissue reactions in allergy. There is a noticeable absence of the fibrous connective tissue proliferation that is so frequently seen in infections. In the acute cases, resorption of the edema takes place with a return to normal cytology, while in the chronic recurring forms, the edematous processes tend to become permanent because of injury to the blood and lymphatic systems. Likewise, superimposed acute and chronic infection promotes infiltration with inflammatory changes and eventual fibrosis of blood vessels and supporting tissues with predisposition to permanent changes.

Chronic edema and fibrosis produce closure of the ducts of the glands with resultant cystic formations.

Hansel[1] showed in the following table (Table I) the changes in different tissues due to allergy, infection, and allergy and infection.

Cytology of Nasal and Paranasal Sinuses in Allergy: The shock tissues or tissues of reaction in allergy are characterized by edema and eosinophilic infiltration. The demonstration of eosinophils in secretion is utilized as a means of corroborating the diagnosis of nasal allergy. The investigation of many workers on the importance of determining the number of eosinophils in secretions from the nasal and paranasal sinuses has emphasized the value of a study of the cytology of these secretions as an aid in the diagnosis of allergy. The recognition of allergy as a factor in diseases of the nasal passages and sinuses has necessitated a reclassification of conditions which were once considered to be inflammatory, particularly the non-suppurative and polypoid forms of disease. These may be classed pathologically in the following manner:

1. Of infectious or suppurative origin.
2. Of allergic origin.
3. Of allergic origin with superimposed infection.

With a very careful history and clinical examination, a diagnosis can be made in a large percentage of patients. Often, it is not feasible or possible to take a biopsy of tissues, but the cytology of the secretions may be considered as an accurate index of the pathology occurring in the tissues. The physician should be capable of determining the presence or absence of allergic manifestations, and whether infection complicates the allergic state through the clinical history, the state of the nasal tissues upon examination, the röentgen examination of the sinuses, the bacteriology, the cytology of secretions, and the histopathology of nasal and paranasal tissues.

TABLE 1

	ALLERGY	INFECTION	ALLERGY AND INFECTION
		Gross Changes	
	Mucous membranes — pale, sometimes normal or red. Edematous thickening. Polyps. Tissue, soft. Secretion, watery or mucoid.	Mucous membranes—red. Firm, thick, swelling. Polyps, rare. Tissues, firm, fibrous, granular. Secretion, purulent.	Mucous membranes — pale or pale red. Edematous thickening. Polyps. Tissues more fibrous and firm. Secretions, clear and purulent.
		Microscopic Changes	
Epithelium	Varying types. Normal to marked hyperplasia. Edema Swelling	Varying types of hyperplasia, often marked thickening assuming squamous characteristics. Surface irregular and granular.	From simple swelling or thickening to marked squamous proliferation. May be granular in areas.
Basement Mucous Membrane	May be absent. Slightly thickened. Markedly thickened. (Asthma)	May be markedly thickened to wide layer. Increased fibrosis. Hyaline appearance.	Usually thickened in various degrees.
Subepithelial Layer Fibrous Tissue.	Edema. Mesothelial cysts.	Compact. Very fibrous.	Edema and fibrosis in varying degrees. Mesothelial cysts.
Glands	Dilated. Cystic.	Compressed. Atrophic. Fibrosed.	Dilated and cystic, or atrophic. Compressed and fibrotic.
Blood Vessels	Dilated. Some thickening in areas. No definite increase.	Vessels thickened. Increased in number. May have thrombosis of arteries, veins, and lymphatics.	Thickening of blood vessels. Considerably increased in number. May have thromboses.
Cellular Infiltration	Eosinophilic infiltration, marked. Few lymphocytes and plasma cells.	Marked infiltration. Lymphocytes, plasma cells, monocytes, histiocytes, fibroblasts, occasional eosinophils.	Considerable number of eosinophils. Moderate or marked infiltration with lymphocytes, monocytes, histiocytes, fibroblasts.
Bone and Periosteum	No change except rarefaction of ethmoid.	Periosteum thickened. Sclerosis of bone. Osteomyelitis.	Thickened periosteum. Some bone sclerosis. Osteomyelitis with severe infection.

In considering the cytology of the nasal secretions, it is often necessary to make repeated examinations, particularly if the clinical history suggests that acute or chronic infection has been superimposed upon an allergic state, or in instances where meager secretions are present.

The technique of obtaining and preparing secretions for cytologic examination can be summarized as follows: Specimens should be taken from both nasal passages. These may be obtained by blowing the nose on waxed paper or into a glass receptacle or on a glass slide. If no secretion can be obtained by blowing, then secretions may be obtained with an applicator or stimulated by inserting a saline tampon into the nasal passages. Secretions from the sinuses may be obtained by puncture or washing. A thin serous discharge will show a sufficient number of eosinophils for identification, and a mucoid discharge usually reveals large quantities of eosinophils. Secretions are more likely to show many eosinophils immediately after an acute exacerbation of symptoms, due to migration of eosinophils through the epithelial layers.

The interpretation of the cytology of the secretions rests with the individual worker. The nature and character of the clinical history, the nasal changes, the presence or absence of infection, and the amount of secretion must be taken into consideration. There is no minimum diagnostic percentage of eosinophils. The interpretation must be made after careful consideration of other pertinent clinical findings. Repeated smears are essential.

A predominance of eosinophils on more than one occasion is highly suggestive of the presence of allergy. Repeated smears in which there is a predominance of neutrophils indicate an acute or chronic infection. In patients with nasal polyps, the greatest degree of stagnation with secondary infection occurs, and necessarily there is some increase in the number of neutrophils. However, in most instances of nasal polyps, the predominant cell will be the eosinophil. A study of the cytology of the nasal secretions is particularly helpful in patients being treated because, in these instances, the nature of acute exacerbations will determine the immediate future treatment.

Classification of Nasal Allergy: Hansel[1] has suggested that nasal allergy may be classified as follows:

Nasal allergy is classified according to *seasonal occurrence:*

1. Seasonal allergic rhinitis.
   A. Hay fever or pollinosis.
      (1) Tree.
      (2) Grass.
      (3) Weed.
   B. Mold allergy.
2. Perennial allergic rhinitis.
3. Seasonal and perennial allergic rhinitis.

Nasal allergy is classified according to *etiology.*

1. Pollen.
2. Mold.
3. Epidermal, as animal dander, feathers.
4. Miscellaneous inhalants, as orris root, house dust, emanations of insects.
5. Food.
6. Bacteria.
7. Combined types.

Nasal allergy is classified according to *pathologic changes:*

1. Gross nasal changes—permanent, transitory, residual.
   a. Red type.
   b. Pale or simple edema (acute or chronic).
   c. Chronic edematous thickening.
   d. Polyposis (acute or chronic).
2. Gross paranasal sinus changes—permanent, transitory, residual.
   a. Simple edema (acute or chronic).
   b. Chronic edematous thickening.
   c. Polyposis (acute or chronic).

Nasal allergy is classified according to *associated allergic clinical states:*

1. Respiratory allergy, as bronchial asthma and bronchitis.
2. Gastrointestinal allergy.
3. Cerebral allergy, as allergic headache.

4. Cutaneous allergy: Eczema, urticaria, angioneurotic edema.
5. Drug allergy.
6. Contact dermatitis: Local or systemic.

Nasal allergy is classified according to complications of *acute and chronic infection and non-specific and associated non-allergic states.*

The Clinical Course and Symptomatology: The onset of nasal and paranasal allergy may be gradual or sudden, depending upon the nature of the etiologic factors and the intrinsic and extrinsic factors. The onset may be influenced by acute and chronic infections, acute infectious diseases of childhood such as measles, scarlet fever, or whooping cough, operations upon the ear, nose, and throat, major operative measures, anesthesia, injections of therapeutic sera, occupational and environmental contacts such as undue exposure to allergens and certain general conditions as puberty, menses, pregnancy, menopause, or physical or psychic shock.

The clinical course of the symptoms is influenced by acute and chronic infections and the amount of discomfort is influenced by the anatomic or pathologic anatomic conditions of the nasal passages and paranasal sinuses such as deflected septa, narrow, small nasal passages, adenoid tissue, chronic edematous mucous membranes, polyps which produce obstruction, stagnation, and infection superimposed on the allergic state.

The clinical course may be prolonged or brief, the allergy may disappear following therapy, or more rarely it may clear up spontaneously. On the other hand, it may disappear, only to be exhibited as another clinical manifestation of allergy. When acute or chronic infection is superimposed, the clinical course may become much more severe, and therapy may be a very difficult problem.

The nasal symptoms of allergy are:

Sneezing

Itching

Nasal obstruction (stuffiness, sense of fullness, and congestion)

Nasal discharge

Loss of sense of smell

Headache

Other symptoms of allied allergic manifestations may be present.

Gross Pathologic Changes: The gross pathologic changes in the nasal passages which are observed upon examination are dependent primarily upon the extent, amount, and duration of edema. The edema is seldom uniform throughout the nose except in acute exacerbations of symptoms. It is more marked along the lower edge of the middle turbinate, in the middle meatus, sometimes on the anterior end of the inferior turbinate, and over the tubercle of the septum. In patients with continuous allergic reactions, the changes are more likely to be widely and fairly uniformly distributed, and the tissues appear to be boggy and covered with serous nasal discharge. During periods of quiescence, the edema tends to resorb. Pathologic changes may be transitory, permanent, or residual.

Chronic symptoms result, in most instances, in thickening of the tissues due to edema and the occurrence of polyps. Marked pathologic changes of a permanent nature are usually bilateral and are confined to certain regions of the nose. This is dependent upon two factors: first, predisposition of the nasal mucous membrane to edema is largely controlled by its histologic structure and in this respect, the mucous membrane covering the structures in the middle and superior meatus has a more delicate supporting stroma than is found in other tissues of the nose. Secondly, the inspiratory zone determines the location of the most marked changes. The middle meatus is, therefore, subject to the greatest degree of irritation, both from specific allergens and from non-specific agents. The areas for most marked pathologic changes are (1) on the edges of the hiatus semilunares, (2) in the infundibulum, (3) at the ethmoid ostia, (4) at the ostium frontale, (5) at the ostium maxillare, (6) on the edge of the middle turbinate, (7) on the edges of the accessory

furrows of the middle turbinate, (8) on the ethmoid bulla, and (9) in the ethmoid cells. The degree of edema and pathologic change is dependent upon the severity of active symptoms, the stagnation of secretions present, particularly purulent secretion, and the presence of superimposed infections. During periods of quiescence, either spontaneous or under therapy, small or medium sized polyps may disappear. On the contrary, during acute infections, inflammatory edema is superimposed and swelling is greater.

In the paranasal sinuses, gross pathologic changes, except for those in the ethmoid area, must be determined by means other than rhinologic examination. It is well to bear in mind that in allergic states of the nasal passages, corresponding changes of similar degree appear in the paranasal sinuses. In the majority of instances, röentgen examination with or without lipiodol will determine the extent of involvement.

Mucous polyps are considered by many workers to be primarily influenced by the allergic condition of the nose and paranasal sinuses. Kern and Schenck[1] have found the clinical incidence of mucous polyps in allergic condition to be 26.5 per cent as shown in the following table (Table 2).

TABLE 2

Clinical Incidence of Mucous Polyps in Allergic Cases

(Kern and Schenck)

	Total cases	No. with polyps	Per cent
Bronchial asthma	600	183	30.5
Vasomotor rhinitis	104	15	14.4
Hay fever (seasonal)	118	16	13.5
Hay fever and perennial asthma	52	18	34.6
	874	232	Av. 23.2

The incidence of mucous polyps in routine examination of patients with non-allergic disease as a major complaint is shown in Table 3.

TABLE 3

Incidence of Mucous Polyps in Routine Examination of Patients with Non-Allergic Disease as Major Complaint.

	Total cases	No. with nasal polyps
Bronchiectasis	73	1
Lung abscess	17	0
Pulmonary tuberculosis	82	6
Arthritis	200	7

In patients who complained chiefly of nasal polyps, the incidence of allergy is shown in Table 4.

TABLE 4

Total number of cases	25
Personal allergy discovered in	22
Familial allergy found in	20
Positive skin tests found in	17
(2 negative; 6 not tested)	
Entirely negative for allergy	1
(on section found to be papillary hypertrophy, not mucous polyp)	

Kern and Schenck reached the following conclusions regarding the relationship between allergy and nasal polyps:

1. Mucous polyps are extremely common in allergic conditions of the respiratory tract.
2. In patients with presenting symptoms of non-allergic diseases of the respiratory tract, mucous polyps are comparatively rare, even in the presence of extensive and chronic sinus infection.
3. All patients with mucous polyps have been found to have a personal history of allergy.
4. Mucous polyps occur particularly in those types of respiratory allergy that are protracted and perennial, suggesting that a bacterial factor is present.
5. The rôle of bacteria in the production of polyps is uncertain; it is suggested that true hypersensitiveness to bacteria is the usual mechanism.
6. The treatment of patients with mucous polyps must include attention to the allergic factor; the failure to reckon with this factor is the prime cause for the postoperative recurrence of the condition.

Diagnosis: As a rule, a definite diagnosis of nasal allergy can be made on the basis of symptomatology and careful intranasal examination. However, instances occur in which neither a careful evaluation of the symptomatology nor the gross pathologic changes are sufficiently characteristic to definitely establish a diagnosis. Therefore certain clinical and laboratory data are necessary in order to prove or rule out the presence of allergy, and also to determine other factors which may influence the onset and the clinical course of the disease. We suggest that the following characteristics of allergy be considered in the routine diagnosis and investigation of all patients with nasal allergy:

1. A positive family history of allergy. This has been found in from 60 to 70 per cent of the cases.
2. Past and present history of other manifestations of allergy.
3. The nose and paranasal sinuses.
   a. Nasal symptoms, sneezing, itching, serous or mucoid discharge, obstruction.
   b. Changes in mucosa, pallor, edema, polyps.
   c. Secretions—eosinophilia.
   d. Röentgen examination positive—edema, polyps, retained secretion.
   e. Histopathology — edema, eosinophilic infiltration.
4. Skin reactions—positive in 80 per cent of cases.
5. Blood eosinophilia.
6. Complications:
   1. Acute and chronic infections.
   2. Non-specific factors.

The cardinal characteristic findings of nasal allergy cannot be demonstrated in every instance but in only a few cases will the investigator fail to find the characteristics listed under headings 3, 4, and 5. In a definite percentage of cases, a history of family and personal manifestations of allergy will not be elicited. This, however, does not preclude the possibility of allergy. The symptomatology and the characteristic clinical and laboratory findings are of greater importance than the history in the doubtful cases. It is obvious that complete studies are necessary.

Investigation of the Patient with Allergy: The following table summarizes the investigations in making a diagnosis of allergy (Table 5):

TABLE 5

Investigation of the Allergic Patient

History: Personal, family, allied conditions.

Physical examination: Special examinations as indicated by history and physical examination.

Laboratory studies:

Cytology of secretion

Biopsy of tissues, histopathologic picture

Blood studies—digestive leukocyte response,

blood eosinophilia, red blood cell sedimentation rate,

blood chemistry

Bacteriologic studies — secretions, sputum, stool

Röentgen studies—sinuses, chest, gastrointestinal tract, kidneys, ureters, bladder, skull

General studies — gastric analysis, basal metabolism, hormone assays

Protein tests: Scratch, intracutaneous, passive transfer, intraocular, intranasal, patch.

Diets, elimination; food diary.

Avoidance of common inhalants.

Confusing ideas concerning investigation of the patient with allergy occasionally occur. Often some skin tests are substituted for a complete and thorough study. In no way does this imply that allergy is correctly investigated. When the investigator completes his study, he should be able to answer all the criteria established by Hansel under the classification of nasal allergy, namely, the seasonal occurrence of symptoms, the etiology, whether due to pollens, molds, epidermals, miscellaneous inhalants, foods, bacteria or a combination of these, the gross nasal and paranasal changes, the associated manifesta-

tions of allergy, the complications, whether by acute or chronic infection, and any associated non-allergic states.

In the investigation of the patient with nasal allergy, we have established the following phases of study:

Personal History, Family History, Allied Conditions: One learns that a careful clinical history is the most important procedure in the diagnostic survey. Through this, one may first ascertain whether or not the patient is an allergic individual. Such information is strengthened by finding a strong family history of allergy. In a consecutive series of 166 cases of nasal allergy, we were able to elicit a family history in 120 cases or 72 per cent. A history of associated manifestations of allergy is important. In this same series of 166 patients with nasal allergy, we obtained a history of other allergic phenomenon of clinical importance in 84 or 50.6 per cent. The history must be very complete, not only in regard to the suspected allergic state, but to any condition that may alter the patient's health from normal. Failure to evaluate the importance of associated disorders results in poor relief of symptoms; this is particularly true in the presence of metabolic disorders, glandular dysfunction, focal and systemic infections.

Physical Examination: In our cases, a physical examination is made routinely. This consumes a brief period of time and occasionally some further clue is noted as to the true nature of the problem. More than this, the investigator is assured of the absence of organic disturbances in most instances and, where questionable, further special investigation will prove or disprove the presence of organic pathology. The necessity for special examinations will be indicated by a careful physical examination.

Laboratory Tests: Routinely in our work at the Clinic, complete blood counts, estimation of the blood sugar, the Wassermann reaction, and urinalysis are carried out. In addition to these tests, blood eosinophilia, cytology studies of the secretions of the nose and sinuses, and the sedimentation rate of the erythrocytes are of greatest value. In the 166 cases cited, blood eosinophilia of greater than three per cent was found in 62 per cent of the patients. The average eosinophil count was six per cent. This observation was based, as a rule, upon one determination for eosinophils. Previously, the importance of careful examination of nasal secretions was discussed. This is one of the most valuable of laboratory procedures. In many instances, where it is difficult to determine the influence of allergy and infection in the production of nasal symptoms, this single laboratory procedure will prove of value in definitely establishing the factor of allergy or infection or a combination of the two. The entire procedure is simple and if the results secured by study of the nasal smears are interpreted in the light of careful history, thorough clinical examination, and other laboratory findings, very few errors will be made in diagnosis.

The third laboratory procedure of value in determining the factors of infection and allergy in nasal and paranasal sinus problems is the sedimentation rate of the erythrocytes. We have used the method of Rourke and Ernstene which we believe is the most accurate. In pure uncomplicated allergy, there is no increase in the sedimentation rate of the erythrocytes as shown by determinations we have made in more than 1000 patients with allergy of the upper respiratory tract. Where acute or chronic infection complicates the picture, there is definite increase of the sedimentation rate, which is proportionate to the acuteness and severity of the infection. This is greatly increased if purulent material is retained in a sinus cavity and drainage is not established. We believe this laboratory test is of as great significance as the cytology studies of nasal secretions in establishing definitely the presence or absence of infection in nasal problems, and if present, the severity and extent of infection.

Röentgen Studies: Very comprehensive studies have been made by a number of observers in the comparison of transillumina-

tion and röentgen examination of the sinuses in allergy of the nose and paranasal sinuses. The general consensus of opinion has been that the röentgen examination gives better results. It is generally agreed that transillumination is usually ineffective in showing the presence of edematous mucous membranes and polyps in the antra because of the tendency of these tissues to transmit light. In our experience, this has been borne out in several instances, although in the majority of cases, findings by transillumination and röentgen examination have agreed.

Kern and Schenck[5], Kern and Donally[6], Baum[2], and Hansel[1] found upon reviewing large series of cases which totaled more than 1000 that positive röentgen evidence was secured in 90 per cent of the patients with active symptoms of respiratory allergy. Hansel made röentgen examinations of 56 children with active symptoms of allergy and found the sinuses to be clear in only three. The cloudiness was confined chiefly to the antrum and the ethmoids. In 13 selected cases of this group, the antra were punctured and washed. The washings were clear in five; they contained mucous in three, and purulent material in five.

Our experience with röentgen examination of patients who have respiratory allergy with active symptoms differs from that of Hansel and other workers in the percentage of positive findings. We recognize that clouding of the sinuses, particularly of the antra and the ethmoids, occurs in severe allergic reactions of the upper respiratory tract. In a series of more than 300 cases, we were able to obtain positive findings in about one-third of the cases. In the group demonstrating positive röentgen findings, a small percentage of the patients were found to have some active infection, although a primary allergic reaction existed.

The limitations of the röentgen examination as a single factor in making a diagnosis should be realized and a diagnosis should never be made from the röentgen evidence alone. When röentgen findings are carefully correlated with the clinical history and other laboratory data, especially those concerning the cytologic and bacteriologic analyses of the secretions from the nose and paranasal sinuses, they may be evaluated more accurately. The transitory nature of the edema which occurs in the mucosa of the paranasal sinuses in allergy adds to the unreliability of the röentgen examination in establishing a diagnosis. Marked changes, as indicated by röentgen studies at one time, may be absent at a repeated examination when the active symptoms of allergy subside. Repeated examination with and without lipiodol are often necessary to determine the extent of chronic or permanent changes in paranasal sinuses.

Studies of the *bacteriology* of the secretions of the nose and paranasal sinuses have been confined largely to the identification of the organisms and the preparation of autogenous antigens to be used as therapeutic aids. Where definite infection exists, or where some of the symptoms appear to be due to bacterial allergy, autogenous vaccines are made and tested intracutaneously. Oftentimes, antigens made from secretions fail to cause any striking skin reactions. These are discarded and fresh specimens are obtained for further preparation and this procedure is continued until antigens are secured which give both excellent skin reaction and some focal reaction. The interpretation of the skin test with the bacterial antigens depends not so much on the immediate urticarial wheal type of skin response as noted in true atopic reactions, but in the erythematous, inflammatory type of reaction, as noted in the tuberculin reactions. These reactions are noted in 12, 18, 24, and 48 hours after the time of injection of the antigen.

Studies of the *blood chemistry* other than determinations of the blood sugar are rarely made unless they are indicated by the presence of clinical problems of a non-allergic nature. In a series of determinations for serum calcium and phosphorus, we have never encountered a single deviation from the normal that could be attributed to allergy.

Special laboratory tests are carried out if indicated by the clinical history and examination. Determinations of the basal metabolic rate have been used most frequently and with more apparent value. In our experience, one-third of the patients exhibit either hypometabolism or true hypothyroidism. Hypometabolism, which is common in respiratory allergic states, responds well to thyroid medication and, as the hypometabolism approaches a normal state, lessening of the dosage can be effected and finally discontinued.

In several hundred patients, determinations of *gastric acidity* have been made, and there has been no more deviation from the normal than would be expected in an average group of patients with any type of problem.

Finally, it is to be remembered that the histopathology of allergy is a very definite picture. In problems where diagnosis cannot be established by other measures or where tissues for pathologic examination can be secured without difficulty, specimens should be taken. There can be no mistake in diagnosis when the histopathology of allergy is studied.

Allergy Tests: From the foregoing discussion, it is obvious that we consider allergy tests as only a part of the investigation of the patient's problem. Each patient must be individualized and several methods of skin-testing may necessarily be used in the same patient. In the majority of patients with respiratory allergy, the scratch method is employed first. This insures against the possibility of constitutional reactions which are discouraging both to the patient and the physician. In a small percentage of patients, allergic reactions will be of sufficient severity that this type of testing is satisfactory; however, in the majority of cases, further investigation is necessary and then the intracutaneous method is employed. This is particularly true if the patients do not have pollen allergy. We have found that at least three dilutions of each allergen are necessary in intracutaneous testing. For the chronic low grade allergy, and particularly where refractive types of skin are encountered, we have used the undiluted stock solutions, except in pollen allergy where tests are always by the scratch method. The majority of patients respond best to the 1:10 dilutions of the regular stock or undiluted antigens. For patients with a more acute and easily elicited response to allergens, complete series of antigens are used with 1:100 and 1:1000 dilutions. If the proper dilution is selected for each patient, skin reactions are easily elicited and interpretation of reactions is not difficult. Through this method of individualizing the tests for each patient, we have obtained much more satisfactory responses from the skin tests and have secured a higher percentage of excellent clinical relief.

The third method of testing for allergens is the passive transfer as elaborated by Prausnitz-Küstner. The indirect method of testing is necessary where the following conditions exist:

1. In children where physical and mental shock render direct methods of testing inadvisable.

2. In patients with severe cutaneous lesions where extensive involvement and lichenification of the skin renders sites for testing impossible.

3. In the group of patients who present a generalized hypersensitive, non-specific response to any substances applied. This response probably is due to trauma and release of histamine-like bodies locally and is not infrequently seen in cases of eczema and urticaria.

4. In the acutely ill patient.

During the past four years we have used the passive transfer method for complete allergy tests in more than 300 patients and the clinical results have been comparable or superior to the direct method of testing. Briefly the method is as follows: Under sterile precautions, 30 c.c. of blood is withdrawn by venipuncture. The blood is centrifuged under sterile precautions and the serum drawn off. No filtering for sterilization is needed if sterile precautions are observed

throughout the procedure. Using quantities of one-fourth to one-third c.c. for each site, the undiluted serum is injected intracutaneously into a professional test person. By means of tests, history, and examination, this individual has previously been proved to be non-allergic. *A relative of a patient is never used.* These sites, which usually number from 32 to 48, are marked by making a linear skin incision with a sharp scalpel. At the end of 48 to 72 hours, the sites are used for testing by the intracutaneous method. If a sharp reaction occurs at a site, it is not used for further testing because the reagins present in this site will have been exhausted. By repeatedly going over the sites, after 48 hours have elapsed between tests in order that antigens may be absorbed, one is able to make from 80 to 100 tests which, if judiciously selected after careful history, will suffice in most instances for a complete allergy examination.

Ophthalmic and intranasal tests have their place in the allergic survey in the hands of most workers. These are performed by simply placing in the conjunctiva or blowing against the nasal mucosa small quantities of purified dried powder of the substance that is suspected. If hypersensitivity exists, an immediate reaction is noted, and the substance can readily be washed out with normal saline and weak solutions of adrenalin. Often a severe reaction occurs which may be discomforting to the patient for a few days. Because of this undesirable reaction and because testing by scratch, intracutaneous, and passive transfer methods are reliable in respiratory allergy, we have not employed ophthalmic and intranasal tests.

The fallibility of determining allergens by skin testing has received considerable criticism from time to time. In most instances, this has been stimulated by the failure to identify causative agents, and the number of false positive reactions that are encountered occasionally. Undoubtedly, skin tests are not accurate in 100 per cent of the cases, but it is true that skin testing, in the hands of an experienced worker who uses reliable and potent extracts, gives a working knowledge of the problem which cannot be paralleled by any known diagnostic procedure. In respiratory allergy, skin tests give the most accurate results, being 90 per cent reliably correct.

Finally, one may use all three methods of testing for allergens in order to obtain sufficient information. Seldom does this combination of methods result in failure, but if such an instance occurs where food allergy is suspected, further investigation through food diary, elimination diets of individual or stock type, and the use of the digestive leukocyte response, as recommended by Vaughn[7], gives information which is of undeniable value.

Allergens: Any protein substance may be allergenic. In Table 6, a summary is given of allergens known to produce at least 95 per cent of allergic reactions. Pollens of trees, grasses, and weeds rank as the largest factor in the production of respiratory allergy.

TABLE 6

Allergens

Inhalants—

Pollens: Tree, grass, weed—occasionally flowering plants.

Molds: Chiefly families of alternaria, aspergillus, cephalothecium, hormodendrum, monilia, penicillium.

Epidermals: Feathers, animal dander.

Miscellaneous: Flaxseed, glue, orris, pyrethrum, silk, kapok seed, cottonseed, tobacco, emanations of insects, Indian gum, house dust.

Ingestants—Food, bacteria, drugs, molds.

Cutaneous—Animal or plant protein drugs.

Parenteral—Sera, toxins, viruses, drugs.

Intrinsic—Infections.

Ill-defined—Smoke, odors, vapors.

Second to the pollens, epidermal substances are considered by many workers to be the largest factor. However, since the advent of mold allergy, many patients with both seasonal and perennial nasal symptoms have been found to be sensitive to mold and with the large factor that house dust plays, this group of etiologic factors threatens the place

of the epidermal substance as the second most common cause of respiratory allergy. All workers in allergy recognize the importance of house dust allergy in patients who suffer with a distinct seasonal respiratory allergy or an intensification of a perennial respiratory allergy in the winter season. This is particularly true where contact with house dust is imminent as in those domestically employed.

Occasionally patients with allergy have intense reactions to one of the miscellaneous substances other than house dust; this is particularly true of animal epidermals, silk, kapok seed, cottonseed, and orris root. In these instances, such a single intense reaction may well be the major factor in the production of symptoms and immunization therapy usually gives excellent results.

Bacterial allergy is a prominent factor where allergy and infection have existed in the nasal passages and paranasal sinuses. We have used stock bacterial vaccines in skin testing in these cases, but our findings show that autogenous antigens are by far superior to the stock vaccines. In every patient where infection is superimposed upon allergy, secretions, either nasal, sinus, or bronchial, are secured for preparation of autogenous vaccines. Although seldom the major factor in the production of allergic reactions, therapy with bacterial vaccine in carefully chosen cases has been of distinct value.

Food allergy is a distinct factor in the production of respiratory allergy. Although many of our patients have definite allergy to inhalants and bacteria, the majority have sufficient food allergy to require strict dietary management. Grains, particularly wheat, milk and eggs, in the order given are most important. The investigator should never overlook this important phase of food sensitiveness in the study of any patient with respiratory allergy despite the fact that severe reactions are obtained to the inhalants.

Differential Diagnosis: Common conditions of the nose that must be differentiated from allergy are frequent colds, acute rhinitis and sinusitis, hypertrophic rhinitis, chronic sinusitis, chronic sinusitis in sinus chest diseases, chronic nasal discharge and headaches, lues, headache with nasal obstruction, and pallor of the mucous membrane due to poisoning from coal tar products.

Other conditions such as severe secondary anemia, hypothyroidism, states of malnutrition and deficiency disease may result in vascular disturbances with changes in color of the nasal mucous membrane, suggesting primarily an allergic state.

It is well known that deflected septa produce chronic nasal obstruction and increased nasal secretion. Physical agents, such as gas, smoke, fumes, mechanical and chemical irritants, atmospheric conditions with extremes and sudden changes of temperature, winter weather with enforced residence in buildings where breathing of dry, unhumidified air and contact with coal smoke and coal dust is unavoidable for prolonged periods of time without proper ventilation and air conditioning, produce exacerbation of nasal symptoms which may simulate allergy. Nasal allergy is often a basis or an aggravating factor in manifesting or prolonging these conditions, but careful history and examination will prove the presence or absence of allergy.

In patients who complain of chronic nasal obstruction and discharge and in whom chronic thickening of the nasal mucous membranes and polyposis with presence of suppurative processes are noted, the possibility of a primary allergic condition must be considered. Hyperplastic ethmoiditis, chronic edema, and polyposis of the sinuses must be looked upon as allergic in origin until proven otherwise. Repeated clinical examinations of nasal secretions and detailed survey of the history should be made before the presence of allergy is excluded. It should be kept in mind that cerebrospinal rhinorrhea may rarely be encountered in patients with profuse watery discharge from the nose, and differentiations can be made by a chemical examination of the nasal secretion.

Mulberry hypertrophy of the posterior tips of the inferior turbinates can be distinguished

from nasal polyps by their location, which is usually in the middle meatus.

The possibility of malignant tumors of the carcinoma type should be kept in mind when the process is unilateral and pain and bleeding are present.

Treatment: Correct diagnosis is imperative in order to institute proper therapeutic measures. It is discouraging to treat a patient for nasal allergy if he is actually suffering with an acute or chronic infectious involvement of the nose and paranasal sinuses.

With the diagnosis correctly made, the next survey includes knowledge as to the adequacy of clinical investigation. No short cut to diagnosis is possible in any patient and each problem deserves the thorough investigation that has been reviewed in the preceding pages. Careful study will accord patients with respiratory allergy such excellent clinical relief as to insure the permanency of allergy in the field of therapeutic medicine.

In our experience, one of the greatest causes for failure to obtain reasonable clinical success in patients who are definitely allergic is not due entirely to inadequate investigation, but to the failure of the physician to convey to the patient the understanding of allergic reactions, of allergenic substances, and what is to be done about them. This phase of the program demands time and detail on the part of both the patient and the physician. We give not only complete verbal instructions, but also carefully written instructions in an attempt to educate the patient in regard to the meaning of allergy and the necessary care and consideration that is a feature in the proper therapy of every problem. A satisfactory allergy regimen and control cannot be accomplished unless this policy is strictly adhered to.

Allergens Which Can be Avoided or Eliminated: As a rule the common inhalants, with the exception of pollens and molds, can be avoided unless the patient is extremely sensitive. When inhalation allergy is proven to be of distinct clinical importance and elimination is not possible, immunization therapy is necessary.

If the patient is allergic to food, only simple elimination is necessary. Desensitization to foods, either oral or parenteral, is not practical or helpful. In making substitutions in the diet, special attention must be given to assure a diet that is adequate, nutritious, and palatable. We employ not only the physician's knowledge of this, but also the coöperation of our dietetic department. Where major foods are eliminated, it is desirable not only to rearrange the diet according to the permitted foods, but to give additional vitamins A, B, and D, and calcium. We feel that this insures against disturbances of nutrition and often is of value in maintaining the physical well-being of the patient. The length of time that foods must be avoided is dependent upon the individual patient and his symptoms. It is reasonable that no food which has definitely been proven to be a specific factor should be returned to the diet in less than six months. The program to be followed in each particular case can be determined only by experience.

Allergens Which Cannot be Avoided or Eliminated: Sensitivity to pollens of trees, grasses, weeds, and occasionally to pollens of flowering plants necessitates hyposensitization. It is recognized and accepted that pollen allergy can be adequately treated by hyposensitization with satisfactory relief in 90 per cent of the cases. Of the three methods of therapy—coseasonal, preseasonal, and perennial—we feel that the perennial method is the most satisfactory and gives a high percentage of relief in the majority of patients.

Allergy to house dust and mold, particularly if there is a distinct variation during the winter season, demands immunization therapy if clinical symptoms are persistent and annoying. The necessity of immunization with house dust antigens can be determined by eliciting a careful history of symptoms on exposure to dust and by interpreting the degree of skin reaction to house dust antigens. Mold allergy is a distinct and large

factor in perennial respiratory allergy. If its significance in the problem is firmly established, immunization therapy is necessary.

Occasionally, patients with respiratory allergy are extremely sensitive to one of the inhalant allergens other than dust, mold, or pollen. These are orris root, silk, epidermals, kapok seed, cottonseed, and emanations of insects. Immunization in this group practically always affords excellent relief.

Previously, a discussion of bacterial antigens and bacterial vaccine therapy was given. We have used only autogenous vaccines and found this phase of therapy to be a valuable adjunct if treatment is continued over an extended period of time.

In hyposensitization therapy it should be emphasized that doses of antigens should not be large enough to produce too great local reaction and never symptoms of a constitutional reaction. It is obvious that signs and symptoms of systemic reaction are evidence of shocking tissues and not stimulating immunity. This particular principle has a counterpart in that it renders any type of immunization treatment a long and tedious process. In immunization therapy, it is best to consider measures that may last several years.

General Measures in Treatment: The commonly associated non-allergic states are hypometabolism or true hypothyroidism and mild hypochromic anemia. Occasionally, a patient has a nutritional deficiency which is either due to enforced dietary restrictions or failure to assimilate ingested food substances due to the marked allergic state. This is not uncommon in patients with food allergy. The general measures most commonly employed with these patients are control of the hypometabolism or true hypothyroidism with small doses of thyroid and control of the secondary anemia.

We study all patients carefully from the viewpoint of any general disturbance and if such a disturbance is present, treatment is given as indicated by the problem involved.

Non-operative Treatment of the Nasal Passages: Definite allergy of the nasal passages often is complicated by pathologic conditions such as badly deflected septa, nasal spurs, nasal polypi, polypoid degeneration of the turbinates, or sinusitis. Conservative measures are indicated in these problems until the allergy is controlled. These membranes are hypersensitive and the use of drugs usually does not result in any relief but only adds to the irritation and congestion and the amount of edema. In the presence of such pathologic conditions, conservative treatment should be instituted in order to secure drainage of any purulent material in the sinus areas or the nasal passages. If treatment is required, only mild drugs should be used. We have found weak solutions of ephedrine, neosynephrin hydrochloride and cocaine to be most satisfactory. However, it should be emphasized that unless it is absolutely necessary, local therapy to the nasal passages or the intranasal sinuses should be avoided. If the condition is primarily of allergic origin, proper investigation and therapy will result in satisfactory relief of the nasal problem.

Surgical Indications: The surgical indications in diseases of the nasal sinuses and nasal passages in the presence of allergy were discussed by the late Dr. W. V. Mullin[5] in a study of 216 patients who were seen in the Department of Otolaryngology and the Department of Allergy at the Cleveland Clinic. His findings summarize our opinion concerning the diseases of the nasal passages and and paranasal sinuses due to allergy. In his group of 216 patients, 52 had had previous operations upon the nasal sinuses but had secured no relief from symptoms. In these 52 patients, no study to determine the presence of allergy had been made. Dr. Mullin found it necessary to carry out surgical measures after the allergic condition was diagnosed and treated in only 16 of these 52 patients. He concluded that in this group of patients careful studies to determine the presence of allergy would have eliminated more than two-thirds of the nasal operations to which these patients had been subjected. In summarizing the 216 cases, Dr. Mullin felt that

allergy was a definite factor in the production of nasal and paranasal symptoms in 35 per cent. The importance of primary allergic studies in these patients and the necessity for conservative surgical procedures were emphasized. Further studies in a larger group of patients have led us to believe that the importance of primary allergic investigation in diseases of the nasal passages should not be overlooked, and that a conservative surgical attitude should be continued.

In primary allergic states where pathologic conditions exist that demand surgical measures, the allergy should be completely investigated and a regimen established in which elimination and hyposensitization measures are carried out. This should be continued for a period of two to six weeks before any surgery is undertaken. By this, the edema that is characteristic of allergy will have essentially disappeared, permitting satisfactory surgical results. If surgical measures are undertaken before the allergy is controlled, it has been our experience that a stormy convalescence follows and this is due primarily to the intense edema that takes place after any operative procedure where an active and acute condition of allergy exists. In many problems, we find it necessary to make not only complete allergy investigation and prescribe the proper treatment, but also to institute conservative surgical measures in order to give the patient complete and satisfactory relief. The most sincere coöperation is necessary between allergist and otolaryngologist.

In order to insure the permanency of allergy in the field of therapeutic medicine, adequate and thorough investigation of the allergic problem and proper measures of therapy, with consideration of associated non-allergic factors, must always be made.

REFERENCES

1. Hansel, French K.: *Allergy of the Nose and Paranasal Sinuses*, St. Louis, C. V. Mosby Co., 1936.

2. Baum, Harry L.: *Incidence of Allergy in Rhinologic Practice*, Arch. Otolaryng., 20:804-812, (December) 1934.

3. Kline, B. S. and Young, A.: *Normergic and Allergic Inflammation*, J. Allergy, 6:247-257, (March) 1935.

Cases of Reversible and Irreversible Allergic Inflammation, J. Allergy, 6:258-272, (March) 1935.

4. Kern, R. A. and Schenck, H. P.: *Allergy a Constant Factor in the Etiology of So-Called Mucous Nasal Polyps*, J. Allergy, 4:485-497, (September) 1933.

5. Kern, R. A. and Schenck, H. P.: *Relative Efficiency of Clinical and Roentgenologic Methods for Sinus Disease Diagnosis, with Observations on Incidence of Sinus Disease. Based on Findings in Two Hundred Asthmatics and Fifty So-Called "Normals."* Am. J. M. Sc., 178: 168-190, (August) 1929.

6. Kern, R. A. and Donally, J. C.: *Incidence and Role of Paranasal Sinus Disease in Hay Fever*, J. Allergy, 3:172-179, (January) 1932.

7. Vaughn, W. T.: *Food Allergens; Leucopenic Index, Preliminary Report*, J. Allergy, 5:601-605, (September) 1934.

Further Studies on Leucopenic Index in Food Allergy, J. Allergy, 6:78-85, (November) 1934.

Food Idiosyncrasy as Factor in Digestive Leucocyte Response, J. Allergy, 6:421-430, (July) 1935.

8. Mullin, W. V.: *Surgical Indications in Disease of the Nasal Sinuses Due to Allergy*, S. Cl. N. Am., 15:839-849, (August) 1935.

TUBERCULOSIS ABSTRACTS

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The diagnostic value of the Von Pirquet cutaneous reaction has long been unquestioned. More recently much interest has been aroused in its possible prognostic significance through studies of variations in individual sensitiveness shown by delicate methods of testing. Dr. Watson's conclusion is that pronounced sensitiveness to tuberculin is an advantage to its possessor whether he has latent or clinically evident disease. This is because of a satisfactory supply of an activating substance in the blood serum which he calls "ergine," which breaks down circulating tuberculin into an irritant body producing toxic phenomena and some other unknown substance or substances.

Prognostic Significance of the Tuberculin Reaction: Ninety-six cases of clinical tuberculosis were studied from 1925 to 1933. Reactions to the tuberculin test were minutely observed and the cases were classified as: (1) those where a strongly positive reaction was obtained; (2) those where a strongly positive reaction was not obtained. Observation of these cases six months later showed that 55 per cent of those who had not reacted strongly were prognostically bad, while only 17 per cent of those who had reacted strongly were in a like condition. Of the former 18 per cent had died, of the latter only four per cent.

In 1933 the survival rate for the whole group was 53 per cent, of the strongly positive group 56 per cent, of those not strongly positive 42 per cent,

or a spread of 14 per cent in favor of the strongly positive group. Selecting only sputum positive cases from the whole group results were similar but with a lower differential, eight per cent.

Further evidence of the prognostic significance of the strongly positive reaction may be deduced from the fact that such pronounced reactions are usual in cases of extra-pulmonary surgical tuberculosis and that there is little tendency for these localized lesions to become generalized.

Again there may be cited the accepted vulnerability to tuberculosis found in the "virgin soil" of primitive races as illustrated by the severity of the disease among American Indians or in Professor Cummins' studies among the natives of South Africa. Dr. Cummins speaks of the "natural liability" to tuberculous infection associated with "virgin soil" as a "dangerous defile at the very start of the road toward immunity."

It is a familiar experience to find a reduction in strength of the tuberculin test or its disappearance during the acute stage of a concurrent infectious disease. This fading away of the reaction may be evident in measles, typhoid, influenza, acute rheumatism, pneumonia, smallpox vaccination, chickenpox and whooping cough. Realizing the frequency with which some of these appear to stimulate tuberculous activity it is reasonable to suppose that the disappearance of the skin reaction represents an embarrassment of the organism in its struggle against an existing tuberculous infection.

Professor Heimbeck's experience and similar observations of Spehl and Thys in Brussels in the study of tuberculous morbidity among nurses are introduced as further indication of a certain prognostic significance to be drawn from variations in intensity of skin reactions in adults.

The Author's Hypothesis of the Significance and Meaning of the Tuberculo-Cutaneous Reactions: Before drawing final conclusions from these and other observations the question of the mechanism of the tuberculin reaction itself confronts us. The following experiment of Calmette is illuminating. When tuberculin is introduced into the conjunctival sac of a non-tuberculous subject no reaction takes place. If blood serum from an actively tuberculous patient is introduced similarly in another non-tuberculous subject there is still no reaction. If, however, tuberculin be mixed in vitro with blood serum from a tuberculous patient and the tube kept for a given time at a given temperature and then injected into the conjunctival sac of a known non-tuberculous subject, a prompt reaction takes place.

From this is may be concluded that: Tuberculin per se does not cause this reaction and serum from a tuberculosis patient does not cause it. There must, therefore, be a substance in the serum of the tuberculous patient which acts on the tuberculin to liberate something causing the toxic and irritant phenomena in the eye.

Living tubercle bacilli flourishing in a patient's body produce a substance resembling tuberculin. This comes in contact with the blood serum of the infected individual and the test tube experiment above described is repeated. The organism, as in other bacillary invasions, should now give a protective response. A substance appears in the serum which so acts on the tuberculin as to disintegrate it into (a) an irritant body producing toxic phenomena, and (b) some other unknown substance or substances. The author suggests the name "ergine" for this substance and assumes that the action of "ergine" on tuberculin is a stage in the elimination of tuberculin from the infected organism. Since constitutional and focal reactions terminate favorably in a large number of tuberculous cases, it is also reasonable to assume that the toxic body (a) is combated by the elaboration of some anti-toxic factor which disposes of and eliminates the products of the action of the "ergine" on the tuberculin. Furthermore, it is again reasonable to assume that the more sensitive the organism is to tuberculin, i. e. the smaller the concentration of tuberculin required to give a response of "ergine," the more quickly will the tuberculin, collected or elaborated in that body, be disintegrated and disposed of.

The process of elimination of tuberculin consists of: (a) a response of "ergine" immediately followed by more or less reaction phenomena; (b) elimination at a varying rate of the results of the action of the "ergine." Organisms with quick and efficient "ergine" response dispose of their tuberculin piecemeal, obviating toxin saturation. Organisms with a slow or late "ergine" response permit the accumulation of tuberculin before "ergine" appears and functions with the resulting production of sudden large volumes of toxin.

Prognostic Significance of the Von Pirquet Cutaneous Reaction in Adults, Wm. G. Watson, M.D., Ch.B., Tubercle, March, 1937.

PRESIDENT'S PAGE

The Clarksburg meeting is now history. It will probably be remembered as one of our finest gatherings of medical men. To the doctors of Clarksburg and Harrison County we are all indebted for their capable management of the local arrangements, for their splendid entertainment of the visiting doctors and their wives, and for the fine hospitality for which they have long been noted.

Personally I wish to take this opportunity to express my own appreciation to all those who contributed to the success of the Clarksburg meeting, and to the rank and file of our membership which turned out in such large numbers and with so much enthusiasm. The Scientific Committee, the Ladies' Auxiliary, the local convention committees, the sectional officers and the several independent medical organizations all played an important rôle in the one meeting which shall forever stand out as the top rung in the ladder of my own career.

If the enthusiasm of the Clarksburg meeting is an index of medical sentiment in West Virginia, then I think our Association is well equipped to cope with the many problems which now confront us. The unity of purpose which we must have was well displayed at Clarksburg. My only message in this brief page is to urge you, all of you, to wear your convention enthusiasm throughout the year.

To my successor, Dr. Charles W. Waddell of Fairmont, I pledge my entire support. Dr. Waddell is well qualified both by experience and by past service to our Association to serve you well and I congratulate the Association upon his selection. During the remaining seven months of my own term of office I shall continue to give of my own time and effort toward furthering the interests of organized medicine in West Virginia.

President.

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NEW OFFICERS

Dr. Charles W. Waddell, Fairmont, treasurer of the Marion County Medical Society and former member of the JOURNAL Publication Committee, was elected president of the West Virginia State Medical Association by the House of Delegates on Tuesday evening, May 25, 1937. Dr. Waddell has rendered valuable service to organized medicine for a good many years and is well qualified by training and experience to lead the Association in 1938. He will take office on January 1, 1938, succeeding our present inspiring leader, Dr. W. S. Fulton of Wheeling.

The convention selected White Sulphur Springs for the 1938 meeting.

Dr. G. G. Erwin, Charleston, was elected on the JOURNAL Publishing Committee to succeed Dr. James R. Bloss of Huntington. Dr. Walter E. Vest, Huntington, was selected as JOURNAL editor.

Other officers elected at the Clarksburg meeting were as follows:

First vice president, Dr. H. H. Haynes, Clarksburg; second vice president, Dr. A. A. Shawkey, Charleston; treasurer, Dr. T. M. Barber, Charleston.

All district councillors were reelected, as follows: Dr. R. J. Reid, first district councillor; Dr. B. C. John, second district councillor; Dr. James McClung, third district councillor; Dr. R. J. Wilkinson, fourth district councillor; Dr. Fred E. Brammer, fifth district councillor, and Dr. Ralph Hogshead, sixth district councillor.

Dr. Ivan Fawcett, Wheeling, was selected as A. M. A. Delegate, and Dr. George F. Evans, Clarksburg, alternate.

DR. CHARLES W. WADDELL

IMMUNIZATION LAW

The interpretation of Attorney General Clarence Meadows of the new West Virginia Compulsory Immunization Law will no doubt be of interest to all physicians. The law, which was passed by the 1937 Legislature, provides that all children must be immunized for diphtheria and vaccinated for smallpox before entering the public schools.

General Meadows has ruled that the Immunization Law does not apply to children who are already entered in the public schools but applies only to pre-school children who will enter school at any time in the future. The Attorney General, in his ruling, also suggested that a period of thirty days grace be allowed all new school children who enter school next fall in which the vaccinations and immunizations can be done.

FIGHT AGAINST SYPHILIS

With the campaign to stamp out syphilis now well under way in the United States, a national effort to control the widespread prevalence of gonorrhea is the next step that must be undertaken in the fight against venereal diseases, in the opinion of Dr. William F. Snow, General Director of the American Social Hygiene Association.

The health authorities and the medical profession cannot hope to carry out effectively the necessary practical programs in attacking these diseases, unless the general public clearly understands and fully supports them with adequate appropriations and the active cooperation of individual citizens. Dr. Snow emphasizes this fact in a special number of the *Journal of Social Hygiene* which reviews the findings of the recent Conference on Venereal Disease Control Work held in Washington, D. C., under the chairmanship of Dr. Thomas Parran, Surgeon General of the United States Public Health Service.

Although the conference in Washington rightly concentrated attention upon syphilis, which is the problem of immediate concern, the public should know that gonorrhea is the next to go, Dr. Snow explains. It has been estimated that approximately 6,000,000 men, women and children are suffering from syphilis in the United States and that more than 12,000,000 persons have gonorrhea.

An editorial in the *Journal of Social Hygiene* compares the plans for a successful fight against syphilis, and the little being done about gonorrhea, with a baseball game in which the pitcher strikes out the man at bat but loses the game because the men on bases were allowed to make runs.

"It would seem that by the sheer weight of the misery which gonorrhea produces throughout the world, it would force itself upon public notice," says Dr. P. S. Pelouze, Professor of Urology at the University of Pennsylvania, in a report on the medical measures which are needed for adequate control of gonorrhea. These are a few of the points to which he calls attention:

The incidence of gonorrhea is at least twice and probably three or four times that of syphilis. What it may lack in ability to cripple and kill, it makes up easily in numbers. It may be acquired repeatedly and thus become a recurring cause of economic loss and poor health.

The sterility which so frequently follows infection with gonorrhea forever denies parenthood to countless men and women who desire to be fathers and mothers.

There is no treatment known today that lends itself to mass application, and quickly renders the patient non-infectious. In the male the disease is practically one hundred per cent curable, and in the female it should be almost as much so. But no one can predict just how long each case will require treatment to reach the point of cure.

From a public health point of view it is necessary to recognize that gonorrhea is a disease that can be transmitted to others as long as there is a single gonococcus present. It is a disease the cure of which is dependent upon the patient's ability to develop certain curative responses.

At no time has there been greater general medical interest in gonorrhea than exists today. Treatment has improved, so that the complications formerly seen so frequently have been largely eliminated.

A WARNING

Lawyer Samuel Biern of Huntington, attorney for the Cabell County Medical Society, has recently notified members of the Cabell Society to be on the lookout for one H. A. Jacobs, recently operating under the alias S. Nathans, who, according to Attorney Biern, is touring the country posing as the representative of the C. V. Mosby Company of St. Louis. Jacobs is described as being about 45 years of age, five feet, three inches in height and weighing about 180 pounds.

Attorney Biern advised the members of the Cabell County Society that this man is a swindler who offers ridiculous bargains, promising two or three subscriptions to medical journals and several books for the price of a single subscription. He is said to have victimized many doctors in the south. Should any journal readers come in contact with this man, Attorney Biern would appreciate immediate notification.

INCREASED MILEAGE ALLOWANCE

The Public Assistance Advisory Board, on April 30, increased the automobile mileage rate for physicians making public assistance calls from five cents per mile to 10 cents per mile (each way) on hard surfaced roads and 15 cents per mile (each way) on unsurfaced roads. The necessity for this increase has long been felt in the rural sections of the state and the increase will no doubt be welcomed by the medical profession. The increase was granted at the request of the Association's Public Assistance Advisory Committee.

In order to offset the increase in mileage, the maximum fee for all public assistance emergency surgery was fixed at $25 and no surgical fees may exceed that figure. The surgical fee schedule up to and including $25 remains intact. This adjustment was agreed to by the Advisory Committee in order to more equitably distribute the funds available.

The adjustment of surgical allowances has nothing whatever to do with the adult physical rehabilitation program, which is operated under a separate fee schedule. The rehabilitation program is a separate unit of the Public Assistance Department and the rehabilitation fee schedule is not affected in any way by the new ruling. The $25 maximum surgical fee applies only to emergency surgery rendered to indigent persons who are receiving public assistance.

The Association's Advisory Committee is now working on a new method for assigning adult physical rehabilitation cases. At the present time these cases are all assigned to the chief surgeons or surgeons in charge of the various approved hospital staffs and they, in turn, reassign the cases to those whom they consider competent to do rehabilitation surgery. Many complaints have been received by the Committee against the present system. It is claimed that many of the younger surgeons, who are properly qualified to receive this work, are excluded from participating in the rehabilitation program. The Advisory Committee is most anxious to receive suggestions and criticism from Association members so that a revised plan may be adopted that will be more equitable to all qualified.

THE ETIOLOGY OF INFLUENZA

For years it was believed by the profession generally that the bacillus of Pfeiffer is the active infectious agent producing epidemic influenza. However, those of us who are well enough advanced in years to have been in active practice during the great pandemic of 1918-19 severely questioned the accuracy of the instruction given us in our student days. This was certainly true among those working in the army medical service. In at least one base hospital where a serious attempt was made to determine the bacteriology of several thousand cases, in less than one-half of one per cent could the organism described by Pfeiffer be isolated.

Since the Great War, the opinion has gradually veered toward the virus origin of the disease. Recently the John Phillips Memorial Medal was awarded to Dr. Richard E. Shope for his work upon influenza which he outlined before the recent meeting of the American College of Physicians in St. Louis. Working in the Department of Animal and Plant Pathology at the Rockefeller Institute for Medical Research, Princeton, N. J., Shope has definitely proven that the cause of swine influenza, an epidemic of which was roughly coincident with the human pandemic of 1918-19, is caused by a filterable virus and an organism apparently the bacillus described

by Pfeiffer in 1892 and for almost two decades believed to be the sole etiologic factor in producing human influenza. One stumbling block in the study of influenza has been the difficulty in transmitting it to experimental animals, but Shope has apparently succeeded in infecting parrots and white mice, and the actual lesions in swine are certainly pathologically similar to the lesions in man.

Shope has not yet proven the exact etiology in the human. He feels that the virus filtrate is closely related but probably not identical because the neutralizing agent he has developed completely neutralizes the porcine virus but only partially the human variety. He believes that further research will probably show the disease in man to be due to the filterable virus now known and being subjected to intensive study, when in symbiotic relationship with some other micro-organism, probably the bacillus of Pfeiffer. Although Shope did not specifically bring it out in his communication, the possibility presents itself that more than one micro-organism may be able to furnish the stimulus necessary to activate the virus to the production of disease.

TWENTY-FIVE YEARS AGO

(From the June, 1912 Journal)

To the Alumni of Jefferson Medical College
Wheeling, W. Va., June 1, 1912

Dear Doctor: You are cordially invited to assist in forming a State Chapter of the Alumni of Jefferson Medical College.

At the annual meeting of the State Association at Webster Springs, July 10, 11, 12, we will meet and organize.

Your presence is earnestly requested. If you should not be able to attend, kindly let us have an expression from you.

Fraternally yours,
E. A. Hildreth, M. D., '86.
H. P. Linsz, M. D., '94.

* * * * *

CONTRACT PRACTICE IN FOREIGN COUNTRIES

"What may be our personal opinion in regard to the merits of contract medical practice at the present time matters but little," says W. B. Chamberlain, Cleveland, (*Inerstate Medical Journal*, December, 1911). "It is an institution already firmly organized and flourishing in our midst, and it has come to stay. It is very necessary that our profession pay heed to these facts. The contract or Kassa practice in Austria, a sort of industrial insurance supervised by the state, has grown from 1,540,000 members in 1890 to almost three million members in 1905, or fifty per cent of the inhabitants of the larger towns. As a result, over thirty per cent of the Austrian physicians have a total income of less than $240 per annum. The average pay for some of the contract doctors amounts to about six cents a visit. In Germany the conditions are only a little better. The fee for an office call is fifteen cents; for a normal childbirth, $1.20. In England at present an attempt is being made to introduce a similar system of industrial insurance, and the profession there is fully aroused. They demand adequate remuneration and representation on the insurance boards. The profession realizes its danger and is thoroughly united. The same dangers will soon confront us, says Chamberlain, and we must be able to present a united body to browbeating industrial organizations and insurance companies, or suffer the consequences."

* * * * *

Original articles in this issue of the JOURNAL were as follows:

"The Surgical Treatment of Musculo-Spiral Paralysis," Dr. Frank LeMoyne Hupp, Wheeling, W. Va.; "The Management of Acute Anterior Urethritis," Dr. W. S. Robertson, Charleston, W. Va.; "Vascular Surgery in Emergency Work," Dr. W. W. Golden, Elkins.

* * * * *

Officers and Councillors of the Association during 1912 were as follows:

President, Dr. C. O. Henry, Fairmont; first vice president, Dr. R. E. Venning, Charles Town; second vice president, Dr. Charles O'Grady, Charleston; third vice president, Dr. H. W. Daniels, Elkins; secretary, Dr. A. P. Butt, Davis; treasurer, Dr. H. G. Nicholson, Charleston.

Councillors—First district: Dr. H. P. Linsz and Dr. H. R. Johnson; second district: Dr. W. H. Yeakley and Dr. H. Edmondson; third district: Dr. P. A. Haley and Dr. B. B. Wheeler; fourth district: Dr. W. S. Ling and Dr. G. D. Jeffers; fifth district: Dr. J. E. Rader and Dr. Samuel Holroyd.

COUNTY SOCIETY NEWS

CABELL COUNTY

The Cabell Society held its regular monthly meeting at the Prichard Hotel on Thursday, May 13, at 8:30 o'clock p. m.

Dr. Harvey G. Beck of Baltimore, Maryland, presented the scientific program. His subject was "Chronic Carbon Monoxide Poisoning." This topic was developed in a very interesting manner and thought very instructive by those present. Earlier in the day Dr. Beck conducted a roundtable discussion of the same subject at the Prichard Hotel.

Following a short business session the meeting adjourned.

CHAUNCEY B. WRIGHT, *Secretary*.

KANAWHA COUNTY

The Kanawha Medical Society met on May 11 at 8:00 p. m. at the Daniel Boone Hotel in Charleston.

The scientific program was as follows: "The Use of Protamine Insulin in the Treatment of Diabetes," Dr. M. I. Mendeloff, Charleston; "The Indications for the Simple Mastoid Operation," Dr. O. H. Bobbitt, Charleston.

A discussion of the proposed Obstetric and Pediatric Conference to he held under auspices of the Division of Maternal and Child Hygiene of the State Health Department was held. The conferences will be held sometime during July and August, the lecturers to be such representative men as Dr. James McCord of Atlanta, Ga.; Dr. E. D. Plass of Iowa City and Dr. Lee Palmer of Louisville, Ky. The charge for the series will be five dollars. The question of date and time of day of the meetings was discussed and the society voted to enclose a questionnaire with the notice of the meetings for purposes of deciding these questions.

CLAUDE B. SMITH, *Secretary*.

LEWIS COUNTY

A most interesting and instructive meeting of the Lewis County Medical Society was held at the Weston State Hospital on the evening of May 26 with Dr. W. S. Fulton, president of the West Virginia State Medical Association, as the guest speaker. He talked on the West Virginia Public Assistance Act and its application to the medical profession, and urged all members to contribute their part in making the medical program a success.

Mr. Joe W. Savage, state secretary, accompanied Dr. Fulton and also made a short talk on Association affairs.

A number of doctors from neighboring counties were in attendance as guests of the society.

THERESA O. SNAITH, *Secretary*.

LOGAN COUNTY

The Logan County Medical Society held its regular meeting at the Aracoma Hotel on May 12, 1937, Logan. The scientific program was conducted by Dr. Boyd F. Brown and Dr. James R. Brown, both of Huntington. Dr. Boyd Brown's subject was "Newer Phases of Anesthesia." Dr. James Brown's subject was "Malignancies of the Bowel." Both papers were very instructive and very interesting and were followed by a general discussion.

The anesthetists from the Logan hospitals were invited to attend this meeting to hear Dr. Boyd Brown's paper.

Dr. R. W. Roberts, Man; Dr. William E. Matthews, Dr. George Heinitsh and Dr. Israel M. Kruger all of Logan, were elected to membership in the society.

Twenty-three members and seven guests attended the meeting.

J. LESTER PATTERSON, *Secretary*.

MARSHALL COUNTY

The Marshall County Medical Society met Tuesday, April 13, at 4:10 p. m. at the Elks' Club, Moundsville, W. Va. Dr. W. C. Boggs, president, called the meeting to order.

Several letters from the State Health Department were read pertaining to compulsory immunization and vaccination and the postgraduate courses in the interest of maternal and child welfare.

A motion was made by Dr. Harold Ashworth that all those who possibly could attend the postgraduate courses should do so. Those promising to attend were Dr. J. A. Striebich and Dr. Robert Ashworth.

A motion was made and passed that a fee of $1.00 should be charged for vaccination and $1.00 for immunization, or $2.00 for the two operations. After some discussion it was decided that a second vaccination should be free.

A further motion was made, amended and passed

to the effect that the Marshall County Medical Society is opposed to any person that is able to pay being immunized or vaccinated by any other person or persons than members of the medical society.

Dr. Boggs and Dr. Niedermyer were nominated and elected as delegates to the state meeting.

The scientific program was presented by Dr. Carl Bickel of Wheeling who read a very interesting paper on obstetrics. His subject was "Difficulties in Labor." His subject was generally discussed.

J. A. STRIEBICH, *Secretary*.

McDOWELL COUNTY

The following doctors have been elected by the McDowell Medical Society on the Advisory Committee: W. C. Hall, Welch, chairman; J. L. McCarty, Berwind; M. H. Tabor, Crumpler, members.

Due to a change in location, Dr. O. H. Fulcher resigned as secretary. He was succeeded by Dr. F. E. LaPrade who was the Association's vice president. Dr. Charles B. Chapman of Welch has been elected as vice president.

F. E. LAPRADE, *Secretary*.

MERCER COUNTY

Dr. W. S. Fulton, president of the West Virginia State Medical Association, was the guest of honor at a dinner meeting of the Mercer County Medical Society held at the West Virginian Hotel, Bluefield, on the evening of April 27, 1937. Members of the McDowell County Medical Society and a number of prominent business and professional men of Bluefield were also guests of the society. Members and their guests were accompanied by their wives, approximately 200 attending.

A number of interesting entertainment features were presented during the banquet, including vocal selections and humorous addresses by Mr. Ray Evans and Mr. William German of Bluefield. Dr. Fulton was the principal speaker and talked on some of the phases of the Social Security Act. He also made a strong plea for organized medicine.

Following the banquet, the doctors and their wives enjoyed dancing until one o'clock.

O. G. KING, *Secretary*.

MONONGALIA COUNTY

The monthly meeting of the Monongalia County Medical Society was held at the Morgantown Country Club, May 7, 1937. Dinner was served at 6:30 p. m. Following dinner Dr. Claude S. Beck of Cleveland, Ohio, presented the scientific program. His subject was "Recent Advances in Cardiac Surgery." Dr. A. H. Stevens of Fairmont and Dr. H. H. Haynes of Clarksburg led the discussion of this paper.

After a short business session adjournment was called.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

The thirteenth scientific meeting of the Ohio County Medical Society was held in the solarium of the Ohio Valley General Hospital on Friday, April 9, 1937. The meeting was called to order by the president, Dr. Robert Armbrecht.

The speaker of the evening was Dr. Fred Rankin of Lexington, Kentucky. His subject was "The Hopeful Prognosis Following Surgery for Cancer of the Lower Gastrointestinal Tract." Dr. Rankin analyzed his large series of nearly five hundred cases to bring out more forcibly the various factors which made for success or failure in surgery of the colon. This very excellent paper was discussed by Dr. J. A. Caldwell, Dr. W. S. Fulton, Dr. R. W. Lukens and Dr. C. H. Clovis.

Following presentation of the scientific program the following delegates were elected to the State Meeting in Clarksburg:

Delegates—Dr. A. L. Jones, Dr. H. T. Phillips, Dr. Robert Armbrecht, Dr. W. A. Cracraft, Dr. W. M. Sheppe.

Alternates—Dr. R. W. Lukens, Dr. L. A. Lyon, Dr. S. W. Tretheway, Dr. H. G. Little.

The fourteenth scientific meeting of the Ohio Society was held in the above mentioned location on Friday, April 16, 1937.. The society had as its guest the state secretary, Mr. Joe W. Savage. Mr. Savage spoke briefly in regard to the coming State Meeting and other matters of interest. Dr. C. O. Henry and Dr. A. H. Stevens of Fairmont were both present and addressed the society briefly.

The scientific paper of the evening was delivered by Dr. Dudley O. Smith, Professor of Syphilology at the University of Virginia. The subject was "Modern Methods in the Treatment of Syphilis." Dr. Smith described a rather unique case finding plan which he has devised and put into effect. This work constitutes a valuable contribution to the

epidemiology of syphilis. Dr. Smith also discussed briefly the fundamentals for satisfactory treatment of early syphilis.

The paper was discussed by Dr. R. N. Pedicord, Dr. H. T. Phillips, Dr. W. G. C. Hill of Moundsville and Dr. W. M. Sheppe.

Fifty-two members and guests were present.

The fifteenth scientific meeting of the Ohio County Society was held on Friday, May 7, in the solarium of the Ohio Valley Hospital, Dr. Robert Armbrecht, presiding.

The scientific paper of the evening was delivered by Dr. Sidney Miller, Professor of Medicine at the University of Maryland. Dr. Miller's subject was "Modern Concepts of Renal Function and Their Bearing Upon the Treatment of Nephritis." Dr. Miller presented a new concept of the unit structures of the kidney in their relation to disturbed physiology. He mentioned many of the older classifications of kidney disease, principally for the purpose of discarding them. The speaker presented in a very logical fashion some of the new ideas concerning diet in nephritis.

The discussion of Dr. Miller's paper was led by Dr. J. R. McClung.

Dr. Russell Bond presented a most unusual case involving the herniation of the principal part of the large intestine through the left diaphragm, into the left chest, with marked displacement of the heart to the right.

Fifty-five members and guests were present.

W. M. SHEPPE, *Secretary*.

PARKERSBURG ACADEMY

The monthly meeting of the Parkersburg Academy of Medicine was held at the Camden-Clark Hospital, Parkersburg, on May 6, at 9:00 p. m. President Sidell called the meeting to order.

The problem of closing doctor's offices at a particular time each week was brought up and discussed by Dr. Jeffers. He pointed out that several physicians were not abiding by the decision of the Academy to close offices on Thursday afternoons. Inasmuch as this ruling is a gentlemen's agreement the members of the Academy were requested to follow the ruling as closely as possible without neglecting their duties as physicians.

Dr. James L. Wade was accepted for membership in the Academy.

A discussion of the proposed tuberculosis sanatorium in Parkersburg was held and it was resolved to appoint a committee to discuss this project with the various welfare organizations in the city.

A discussion of the plan for hospital care for the laboring class of Parkersburg was held and several amendments were offered and accepted for the by-laws of this plan.

BERLIN B. NICHOLSON, *Secretary*.

GENERAL NEWS

GOLDEN CLINIC DAY

The Third Annual Clinic Day of the Golden Clinic will be held at Elkins, July 14.

The meeting will be opened at 8:30 with case presentations by members of the Clinic staff and guest speakers.

At noon there will be a luncheon for alumni of New York University College of Medicine and visiting physicians interested in diseases of the cardiovascular system. Doctors John H. Wyckoff and Louis Hamman will be guests at the luncheon, which will be in charge of Dr. T. Martin Goodwin, New York University Medical School, and Dr. R. J. Condry, secretary of the West Virginia Heart Association.

In the afternoon, Dr. Lawrence R. Wharton of Johns Hopkins Hospital, Baltimore, will address the meeting on "Tumors of the Kidney." This will be followed by an address on "Heart Diseases" by Dr. John H. Wyckoff, Professor of Medicine, New York University. "Tumors of the Abdomen" will be read to the meeting by Dr. Louis Hamman of Johns Hopkins University.

Dr. J. Ross Hunter will act as toastmaster at the dinner to be held at 6:30 p. m. The address "New Names for Old Tumors" will be delivered by Dr. Lawrence A. Pomeroy of Western Reserve University.

MEDICAL COLLEGE OF VIRGINIA

Commencement exercises closing the ninety-ninth session of the Medical College of Virginia will be held at the Mosque Theatre, Richmond, Tuesday evening, June 1 at eight o'clock. Mr. Howard W. Blakeslee, Science Editor, the Associated Press, will be the speaker.

The commencement sermon will be given Sunday evening, May 30, at eight o'clock, by Dr. Ernest Van R. Stires, Rector, All Saints Church, Richmond, Virginia.

This year there will be eighty-two graduates in medicine, twenty-two in dentistry, twenty in pharmacy, and twenty-eight in nursing. These represent fourteen states, Puerto Rico and thirty-four of the one hundred counties of Virginia.

VIRGINIA ACADEMY OF SCIENCE

The Virginia Academy of Science held its 15th annual meeting at the University of Virginia, May 6, 7, and 8, 1937, with a registration of 376. The public address Friday night was given by Prof. Ernest Orlando Lawrence of the University of California under the joint auspices of the Academy and the University of Virginia Chapter of the Society of Sigma Xi. The subject of his address was "Atoms, New and Old."

The Academy prize of $50.00 was awarded to Prof. R. G. Henderson of the Virginia Polytechnic Institute for a paper entitled "Studies on the Downy Mildew Disease of Tobacco", and the Jefferson Gold Medal was awarded to Dr. William Branch Porter of the Medical College of Virginia for a paper entitled "Heart Changes and Physiologic Adjustment in Hookworm Anemia." Honorable mention was also accorded to J. R. Dietrich for a paper entitled "Propagation of Potential in Discharge Tubes" and to R. W. Quarles and A. F. Benton for a paper entitled "Heats of Absorption of Gases on Sodium Fluoride." A total of 179 papers were presented in the sectional meetings, 39 being in the Section of Astronomy, Mathematics and Physics, 50 in Biology, 29 in Chemistry, 11 in Education, 25 in Geology, 17 in Medical Sciences, and eight in Psychology. There were also very interesting demonstrations in some of the sections.

DR. HINSDALE SAILS

Dr. and Mrs. Guy Hinsdale, of The Greenbrier, White Sulphur Springs, West Virginia, sailed on the Queen Mary, May 26, for a visit to France and England. After visiting the Exposition in Paris they will go to Neuheim and Wiesbaden, thence to London for a few weeks.

While in London, Dr Hinsdale will attend the Council meeting of the International Society of Medical Hydrology and the sessions of the Royal Society of Medicine, returning to the United States, July 15.

MEDICAL RELIEF POLICY

Following up the recent announcement of our Association's Public Assistance Advisory Committee relative to the increase in physicians mileage, the State Department of Public Assistance has recently issued a bulletin to its various county directors calling attention to the revision of fees and also outlining a change of policy with respect to medical relief and relief hospitalization. As this bulletin carries so much information of importance to the medical profession it is published in full below:

After approximately six months of experience in the administration of the Medical Relief and Relief Hospitalization phases of the public assistance program it is now obvious that the State Department of Public Assistance should recommend to the several County Departments of Public Assistance a number of vital changes in the policies and fee schedules with respect to both Medical Relief and Relief Hospitalization.

Pending revision and reprinting of the Manual of Procedure for the administration of Medical Relief and Relief Hospitalization, County Departments of Public Assistance are to consider this bulletin authority to operate these phases of the Public Assistance program *within the limitations prescribed herein*, effective as of May 15, 1937.

As is generally known to all county departments, the West Virginia Legislature, in the regular session of 1937, amended Sec. 2, Article VI, Chapter 9, of the "Public Welfare Law of 1936," by striking out the clause "a person financially able to maintain himself under ordinary conditions, but unable to provide necessary medical or surgical care or treatment shall be eligible to general relief."

After consideration of Sec. 10, Article V, Chapter 9, and Sec. 2, Article VI, Chapter 9, both of the "Public Welfare Law of 1936," as amended by the Acts of the Legislature of West Virginia, Regular Session of 1937, it is the opinion of the State Department that medical relief and relief hospitalization (forms of general relief) are not necessarily limited to persons actually receiving cash grants of general relief, or actual recipients of one of the three forms of public assistance, but, unless an applicant for either medical relief or relief hospitalization, or both, *is* "a public charge, or is in danger of becoming a public charge;" *or is* "in need of medical or surgical care whether in an institution or in his home," *and* "does not have a sufficient income to provide a subsistence compatible with decency and

health," he shall not be construed to the eligible for either medical relief or relief hospitalization.

In other words, with respect to "marginal subsistence" persons not carried in the case load of a county department, it will be necessary for the county department to institute an independent, individual investigation before assuming financial responsibility for the services of the medical practitioner or the hospital. As an example of the "marginal subsistence" group we would cite persons receiving WPA employment. In considering the advisability of granting medical relief or relief hospitalization to persons on WPA rolls at the expense of the county general relief fund, the earning capacity of the WPA employee involved and the "mandatory" requirements upon his resources for the care and subsistence of himself and his family should be investigated extensively.

While there is no definite rule of thumb which will serve as an accurate guide in every case, and while any aid granted by a county department must be on the basis of the individual case need as reflected by the circumstances revealed by proper investigation, we recommend, with respect to WPA cases generally, that wherever possible the "marginal subsistence" WPA employee be required to meet the costs of routine medical services (home calls and office calls), and that the County Departments of Public Assistance assume responsibility only for the emergencies, such as surgery and hospitalization. We feel that the WPA employee, who, even though he may be in the "marginal subsistence" wage classification, receives governmental aid in greater amount than the general relief recipient, should not be given such an advantage over the "less well paid" general relief client as publicly-paid medical service. Perhaps, however, it would be expecting too much of a WPA employee to require him to assume personal responsibility, from his subsistence wage, for the more expensive emergencies, such as surgery and hospitalization.

In order to effectuate a more understandable relationship between the County Department of Public Assistance and the applicants for medical relief and relief hospitalization on the one hand, and between the County Department and the medical profession and hospital on the other hand, it is suggested that each County Department adopt some such "statement of policy" as the following:

"(1) The County Director of Public Assistance may, upon request of a classified or general relief recipient of assistance, grant temporary medical care, or, upon advice of a physician, arrange for emergency surgical treatment and or hospitalization, without first obtaining approval of the County Council. Physicians and hospitals, when submitting bills for such services, shall state in writing, in detail, the circumstances surrounding such emergencies, the diagnosis, and the treatment given, and may suggest what further treatment, if any, is necessary. Attention is called to the fact that such grant of authority to the County Director by the County Council applies only to recipients of general relief or one of the three forms of classified assistance, whose cases have already been passed upon as such by the County Council, and are at the time included in the case load of the County Department of Public Assistance. The foregoing statement of policy is based upon Sec. 18, Article V, Chapter 9, of the "Public Welfare Law of 1936," as amended.

"(2) The County Director of Public Assistance has no authority to authorize in advance medical care, surgical treatment, or hospitalization of any person not coming within the categories named in the foregoing statement of policy. With reference to the treatment or hospitalization of marginal subsistence persons not carried in the case load of the County Department, doctors and hospitals are on identically the same footing as they were prior to the adoption of the present public welfare statute, with the possible advantage set forth in Sections 12 and 13, Article VI, Chapter 9, of the "Public Welfare Law of 1936," as amended, viz:

"If, within 48 hours after a person has been admitted for emergency treatment to a hospital, such a hospital sends to the County Council of the county, a report of the facts of the case in writing, including a statement of the physician in attendance, as to the necessity of immediate admission of the person to the hospital and emergency treatment, and alleges in such statement that the person is indigent and unable to pay for such hospitalization and treatment, the County Council may, if it finds upon careful investigation, that the person is indigent and unable to pay for such hospitalization and treatment, whether by cash or by installment payments, and has no legally responsible relatives who can pay for the same, assume financial responsibility for the payment of the amount due for such treatment in accordance with the fee schedules adopted by the County Council within limitations imposed by the State Department of Public Assistance.

"The foregoing statement of policy will apply also to physicians giving emergency medical or surgical aid to so-called marginal subsistence persons not actively carried in the case load of the County Department of Public Assistance."

The intent and purpose of such a proposed statement of policy must at once be obvious. The law requires investigation of applicants for any form of general relief or public assistance. It must be assumed that persons actually receiving general relief or one of the three forms of public assistance have been investigated as is required by statute. Thus, there should be no doubt as to their eligibility for medical relief or relief hospitalization when the need for either, or both, should arise, and the County Council would be safe in authorizing the County Director to proceed in the matter of authorizing necessary medical, surgical or hospital care in such cases. In all other cases, however, neither the County Council nor the County Director can legally commit the County Department to be financially responsible for the costs of treatment provided, or proposed to be provided, in advance of the making of proper investigation. Oftentimes it is impractical to withhold medical or surgical aid, or hospital care, until such investigation has been completed. Thus, to meet such contingencies, the law provides the "48 hour report" clause, and hospital administrators and doctors must be satisfied to resort to this provision in emergency cases involving "marginal subsistence" persons not definitely known to be eligible for medical relief or relief hospitalization, as stated herein.

The State Department of Public Assistance recommends to the County Departments of Public Assistance the following fee schedule for reimbursement of physicians, dentists and pharmacists. While it is recognized that the fees indicated below are not commensurate with the prevailing fees or charges of the respective professions in this State, they are, however, the maximum charges which shall be allowed in view of relief funds available for such purposes:

Physicians and Surgeons

Visits in the Home:	
First house call (6 a. m. to 11 p. m.)	$ 2.00
First house call (11 p. m. to 6 a. m.)	3.00
Subsequent house calls after the first, each	1.00
Consultations	2.00
Mileage allowance:	
Hard-surfaced roads, each way, per mile	.10
Unimproved roads, each way, per mile	.15
Office Visits:	
First office visit	1.00
Subsequent office visits after the first, each	.50
Obstetrics:	
Prenatal calls (maximum of three), each	2.00
Delivery	15.00
Postnatal calls (maximum of two), each	2.00
Tonsils and Adenoids (urgent cases only):	
Surgery for removal of (flat fee, including after care)	15.00
Hospitalized (non-surgical) Cases:	
First hospital visit	2.00
Subsequent hospital visits after the first	1.00
Surgery (flat fee, including after care and treatment):	
Fractures, open or closed, with appliances:	
Patella, without operation	15.00
Clavicle	25.00
One bone of forearm	15.00
Carpal bones, single or multiple	12.00
Metacarpal, single or multiple	12.00
Fibula	15.00
Scapula	12.00
Lower jaw	25.00
Upper jaw, non-operative	10.00
Nasal bones	10.00
Ribs, single or multiple	10.00
Skull, non-operative	20.00
Foot, tarsal bones (single or multiple)	12.00
Metatarsal bones	12.00
Phalanges	10.00
All other fracture treatments not listed herein:	
Maximum allowance	25.00
Dislocations:	
Shoulder	20.00
Elbow	15.00
Knee	15.00
Patella	10.00
Ankle	15.00
Finger	5.00
Toe	5.00
Lower jaw	5.00
Clavicle	20.00
All other dislocation treatments not listed herein:	
Maximum allowance	25.00
Amputations:	
Hand, wrist, arm	25.00
Toe or finger	10.00
All other amputations not listed herein:	

Maximum allowance	25.00
Eye, Ear, Nose and Throat:	
Removal of tonsils and adenoids	15.00
Foreign bodies in eye, not imbedded	2.00
Foreign bodies in eye, imbedded	5.00
Opening antrum	10.00
Opening frontal sinus (shrinking)	3.00
Operation, radical, frontal sinus	25.00
All other treatments of eye, ear, nose or throat not listed above, maximum allowance	25.00
Miscellaneous:	
Cystoscopic examination	5.00
Ureteral catheterization	10.00
Application of casts for other than fractures:	
Body, thigh, upper arm	7.50
Lower extremities	4.00
Osteomyelitis, incision and curettement	10.00
Chest, cutting into for removal of pus	25.00
Carbuncle	10.00
Curetting uterus	15.00
Intubation	25.00
Paracentesis, abdominal thorax and bladder	5.00
Tracheotomy	25.00
Cystotomy	25.00
Transfusion of blood	10.00
All other surgical operations or treatments not listed herein, maximum allowance	25.00

Physicians should be required to use a formulary which excludes expensive drugs where less expensive drugs may be used with the same therapeutic effect. Proprietary, or patent medicines shall not be used, thus avoiding expensive expenditures for remedies of unknown value. Payment should be made only for drugs and medicines listed in the National Formulary or the United States Pharmacopoeia, and a limit of fifty (50c) cents should be placed on drugs in each case unless special authorization is procured by the physician of the county department for expenditures in excess of that amount in special cases. Routine drugs and medicines for hospitalized patients are to be provided by the hospital, and the charges therefor are included in the flat per diem rate hereinafter to be stipulated. Special medicines, serums, and solutions for hospitalized patients are to be provided by the hospital at actual cost, and no more.

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DELINQUENT ACCOUNTS

What is a delinquent account? Obviously this question is not easily answered as it applies to medical accounts, because it depends upon the *normal expectancy of payment* and thus varies with the individual arrangements. The time when the creditor expects payment of an account has a very definite relation to his collections because people pay their bills largely by habit.

For instance, the man who habitually pays all his bills each month will do so without much invitation and never becomes a problem in delinquency. Then there is the man, representing by far the largest group, who pays certain bills such as telephone, light, car payments, etc., promptly because he has formed the habit, but who never pays quite all his bills at one time. The bills he pays in full every single month are invariably those firms which have so continually impressed him with the fact that they *expect payment* promptly, that he has almost unconsciously formed the habit of paying them as expected. Since this group usually furnishes the doctor a substantial part of his income it is important to help them form good paying habits, and as many of these are "good as gold," "perfectly honest," "best patients," etc., this must be done with a certain finesse or not at all.

The wide variance of collection percentages among doctors shows that some members of the medical profession have been successful in building up these paying habits. It can be done and the first step begins with the early contacts with the patient in the office. If the attitude of the doctor and his assistant indicates that "of course" prompt payment is expected, and emphasizes the value of the service, there is far less possibility of delinquency. Next in importance is the sending out of statements promptly and regularly.

Then if payment has not been made after three or four statements have been sent, there is something wrong and the sooner it is discovered and corrected the better the ultimate result will be. Possibly the bill has just been neglected, or unusual expenses have made it difficult to pay. On the other hand, perhaps there has been a misunderstanding regarding the treatment and the sooner the patient is contacted the more easily the difficulty may be straightened out without unpleasantness.

(Continued on page xxiii)

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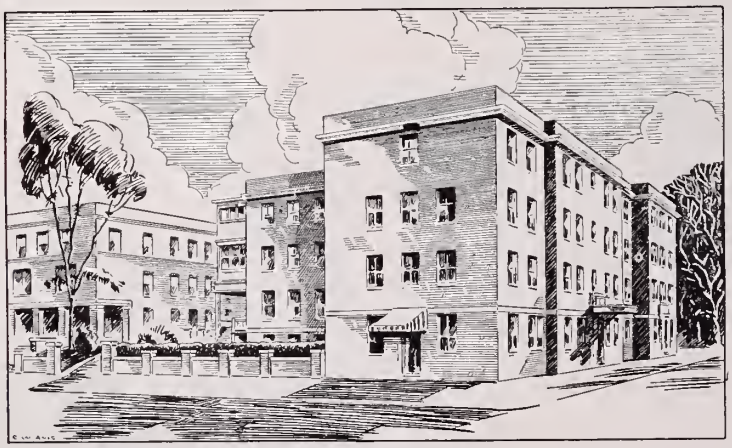

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(Continued from page xx)

Personal correspondence is a courteous and dignified method of following up statements which have been disregarded. When a patient responds giving reasons why the bill cannot be paid it should be acknowledged, and in the same manner when he fails to keep the promise to pay he should be sent an immediate reminder.

If several efforts to collect the account fail, the account should be given to a local, dependable collection agency bonded by the state, not only to collect, but also to make it more difficult for the patient to run up other bills.—*Journal of the Michigan State Medical Society.*

WOMAN'S AUXILIARY

CABELL COUNTY

The Auxiliary to the Cabell County Medical Society met on April 11, at the home of Mrs. W. D. Bourne in Barboursville, W. Va. Mrs. R. H. Curry was assistant hostess.

Mrs. W. O. Grimm, president, presided. Nineteen members were present. Mrs. James S. Klumpp gave a report of the Nominating Committee. It was as follows:

President, Mrs. Edwin J. Humphrey; vice president, Mrs.. Harry E. Beard; secretary, Mrs. James R. Bloss; treasurer, Mrs. Fred E. Brammer.

The slate met with approval of attending members.

Mrs. Bourne entertained her guests following the business session with motion pictures of Norway, Russia and Finland. Tea was served after the movies.

MRS. E. J. HUMPHREY, *Secretary.*

The Cabell Auxiliary met on May 10 at the home of Mrs. E. E. Rose; Mrs. Karl Prichard was assistant hostess. Mrs. Edwin J. Humphrey, the newly elected president, presided. Nineteen members were present.

Mrs. W. E. Neal gave a most interesting review of "Wingless Victory", "Mask of Kings", "High Tor", all three by the author Maxwell Anderson and "You Can't Take It With You" by Moss Hart. Also brief reviews of "Eternal Road" and Shakespeare's "Richard II".

During the business session the following delegates were appointed to the state meeting:

Mrs. James R. Bloss, Huntington, Mrs.. Fred E. Brammer, Dehue.

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The following standing committees were appointed by Mrs. E. J. Humphrey:

Program, Mrs. J. S. Klumpp, Mrs. W. C. Swann, Mrs. Gilbert G. Ratcliff; legislation, Mrs. I. W. Taylor; public relations, Mrs. W. E. Neal; *Hygeia*, Mrs. J. J. Brandabur; historian, Mrs. H. A. Brandebury; hospital, Mrs. W. O. Grimm; press and publicity, Mrs. A. G. Rutherford; research and romance, Mrs. R. H. Curry; membership, Mrs. H. E. Beard.

MRS. JAMES R. BLOSS, *Secretary*.

LOGAN COUNTY

The Logan County Medical Society Auxiliary met on May 4 at the Logan Woman's Club. Mrs. D. S. Hess presided over the meeting. Eleven members attended. Dr. Fred E. Brammer was the principle speaker. His subject was "Health Security for Every Child."

During the business session Mrs. L. E. Steele was elected delegate to the State convention with Mrs. C. A. Martin as alternate.

The next meeting of the Auxiliary will be held on June 1, 1937.

MRS. J. L. PATTERSON, *Secretary*.

KANAWHA COUNTY

The Auxiliary of the Kanawha Medical Society held its annual tea on May 11 from four to six o'clock at the home of Mrs. Robert Price in Kanawha Avenue.

In the receiving line were Mrs. Price, retiring president; Mrs. Hugh Robins, guest of honor; Mrs. J. E. Rucker, incoming president; Mrs. A. A. Wilson, president-elect; Mrs. B. A. Swint, first vice president; Mrs. R. A. Ireland, second vice president; Mrs. V. L. Peterson, third vice president; Mrs. E. L. Shamblen, recording secretary; Mrs. P. A. Haley, corresponding secretary, and Mrs. H. H. Swart, treasurer.

Mrs. John Moore poured tea and Mrs. R. H. Walker and Mrs. Phillip Preiser presided at the punch bowl. Mrs. M. I. Mendeloff greeted the guests and Mrs. W. S. Shepherd had charge of the guest book.

Assisting in the dining room were Mrs. A. A. Shawkey, Mrs. Francis Clark, Mrs. Thomas Reed, Mrs. V. T. Churchman, Jr., and Mrs. Randolph Anderson.

MRS. P. A. HALEY, II, *Secretary*.

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Scarano and Coppolino (Arch. Pediat., 54, 97, Feb., 1937) report on the use of 'benzedrine' (benzyl methyl carbinamine, S. K. F.) in vapor phase in 100 cases of nasal congestion in children. The ages of the group ranged between two months and 12 years, with 11 under one year of age.

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The authors conclude that 'Benzedrine Inhaler' therapy is effective and acceptable to the child patient. At the same time it tends to eliminate the pain and discomfort which so often complicate the administration of liquid vasoconstrictors.

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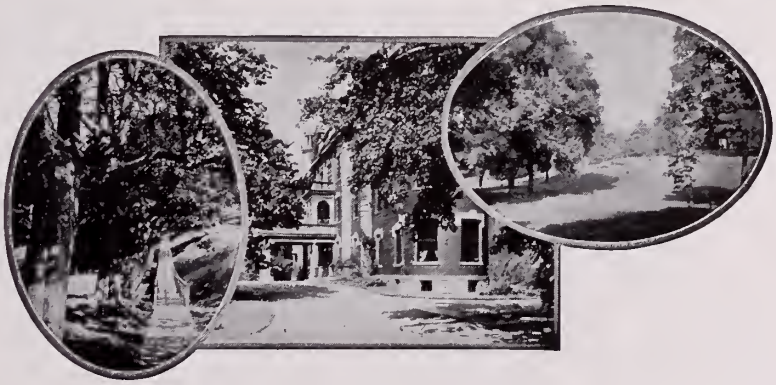

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VALUE OF THE SEDIMENTATION RATE IN MEDICINE*

(Oration on Medicine)

By Oscar B. Biern, M. D., F. A. C. P.
Huntington, West Virginia

Present day medical knowledge, like that of the past, is a queer mixture of fact, foibles and fallacies mingled together in unequal proportions by the individual physician to suit his varying needs. To change from fallacy to fact is a long, time-consuming process, each reacting in a different manner depending on how much faith we have in the sign, the symptom, or the test. The careful scrutiny that the medical world gives to a thing labeled "new", while it has kept many a fallacy from being established as a fact; on the other hand, progress at times has been long delayed by an unwillingness to accept new ideas and new thoughts. The average practitioner is loathe to give up the sign, the treatment, or the test that apparently has stood him in good stead in the past, and there are still those who have more reliance in the "smell" of a fever than in Widals and blood cultures, and continue to diagnose pneumonia by a red patch on the cheek.

The test that I want to discuss, the sedimentation rate, while it cannot bear the label "new", has not been universally used to the extent that it warrants, mainly because what is really a very simple laboratory procedure has been modified so many times that its simplicity has been lost, and secondly we have clung too long to the infallibility of the blood count as an index of infection.

In 1918, Fahraeus[1], called attention to the fact that there was an increase in the sedimentation rate of the red blood cells in the citrated blood of pregnant women. This was immediately hailed as a new test for pregnancy, but was soon discarded as it was found to be unreliable until after the third month. He, however, was not the first to note this interesting phenomenon, as Galen[3], as early as the year 200, pointed out that if blood were allowed to stand in a tube, a white line would form at the top of the blood. While he did not recognize the white line as coagulated plasma, he did regard it as pathological, and referred to it as the "Crusta

*Read before The West Virginia State Medical Association at Clarksburg, West Virginia, May 25, 1937.

Phlogistica", or "Crusta Inflammatoria", and thought it warranted a grave prognosis. Further, in 1791, John Hunter noted that the red blood cells of the blood settled more rapidly in inflammatory conditions than they did in normal blood. Other observations were made by Nasse in 1836, Davy in 1839, Mueller in 1844, and Biernacki[5], in 1894. The test was then forgotten until the work of Fahraeus. Since that time, there are more than 2500 references to it in the literature. Among the pioneers are Linzenmeier[6], who, in 1920, called attention to its usefulness in the diagnosis of pyosalpinx, being followed by Friedlander in 1924, Polak in 1926, and Baer and Reis in the same year, all stressing its aid in the diagnosis of gynecological conditions and obstetrics. Cutler[8], working at the Phipps Institute in Philadelphia, has, perhaps, done more than any other person in popularizing the test, and his experience of finding the test normal in the presence of infection only five times in a series of more than five thousand patients, should carry some weight.

At the present time there are more than thirty different methods of performing the test, all of them agreeing practically one hundred per cent in their final results, differing from each other mainly in the type of tube used, and the amount and kind of anticoagulant. It is hoped that in the very near future a single standard method will be in universal use. The underlying principle in all methods is the measurement of the distance of fall of the red blood cells in one hour. In my office the graphic method of Cutler, and the Linzenmeier method are used. Both these methods use small quantities of blood, which is a distinct advantage, especially in dealing with children. One-tenth of one c.c. of a three per cent sodium citrate solution, and nine-tenths c.c. of blood, which is obtained by puncture of a suitable vein, preferably without the use of a tourniquet, are gently mixed in a two c.c. syringe, and poured into the sedimentation tube. These tubes vary depending on the method used. With the Cutler method, readings are made every five minutes for one hour, the observations being recorded on charts designed for that purpose. This is an excellent method as the graph will not only show the position of the sedimenting column of blood at any period of time during the hour, but also portrays the changes in velocity that occur during the process of sedimentation. The Linzenmeier method is less time-consuming, as only one reading is made, that of the length of time it takes for the cells to settle to the 18 m.m. mark.

It is beyond the scope of this paper to consider the various hypotheses that have been advanced to explain the phenomena of blood sedimentation, and the factors intrinsic and extrinsic that alter, if at all, the rate of sedimentation. To those who are interested, there is an abundant literature. Suffice it to say that of a host of explanations not one is acceptable to all workers. There is, however, accumulating an overwhelming amount of evidence to support the views of Cutler, that this phenomenon depends on the amount of cellular destruction going on in the body. As the blood circulates from part to part, it carries away products of tissue destruction, which alters its stability. In health, as a result of wear and tear of everyday life, a certain amount of tissue destruction is always taking place, and although this varies from day to day, it remains within limits considered normal. Should the amount of tissue destruction pass beyond normal, then the stability of the blood is altered, and the cells settle out quickly from the plasma. Hirsch[4] believes the sedimentation rate depends on the presence of a foreign protein; in pregnancy, this is the protein of fetal catabolism; in infection, it is the protein of bacteria; and in malignancy, or coronary occlusion, it is the protein or necrotic tissue. There is much to support both of these views. However, all are agreed that regardless of the disease present, whether active pulmonary tuberculosis, malignancy, pelvic inflammatory disease, rheumatic fever, or coronary occlusion, or in any disease where

tissue destruction is going on at a pace more rapid than normal, the rapidity of the settling out is in direct proportion to the severity of the disease. The sedimentation rate should be looked upon as one of the fundamental phenomena of disease indicating the measure of pathological activity in the same sense as fever or leucocytosis.

From a host of factors that supposedly alter the sedimentation rate, perhaps the anemic factor has been more often cited as influencing it, and Rourke and Ernstene[9] have developed a method for correcting variations in cell volume percentage of blood. From a standpoint of scientific accuracy this work is probably necessary. However, as a practical clinical procedure it is intricate and time-consuming, and in my opinion, need not be done. In a recent personal communication from Dr. J. W. Cutler[10] he says, "During the past two years Doctors Park, Herr, and I have carried out some new studies at the Graduate Hospital particularly with reference to technique and we are prepared to state that it is not necessary nor desirable to correct for anemia in evaluating the sedimentation test."

So much for theory. Now, let us consider how this test will be of value to the average physician in his daily practice, either in the office, or hospital. Of course, it will be impossible to list all the conditions in which it is useful, so I will take up just a few as a sort of cross section. Rheumatic fever offers a type of disease that will bring out some of the major points. At the onset, there is a fever of a mild grade, and a moderate to slight leucocytosis, and an elevation of the pulse rate. It has been widely accepted that no patient having rheumatic fever should be allowed out of bed until he has been free of all signs of infection for at least three weeks, during which time he should not be taking anti-rheumatic drugs. Ernstene made a study of a large number of cases of rheumatic fever of all types with a comparison of blood counts with sedimentation rates, with the idea of ascertaining which one of these tests would offer the best criteria as to the cessation of activity, relapses being so frequent in rheumatic fever, which, in the minds of most, is due to inadequate rest. His results, which have been corroborated many times, are striking. Previously Swift, Miller, and Boots[11] had directed attention to the significance of the leucocytic curve in rheumatic fever, their studies demonstrating that in the absence of non-rheumatic infection, a persistent leucocytosis indicated activity of rheumatic infection, and conversely repeated white blood cell counts below 9000 after the discontinuance of anti-rheumatic drugs signify that the disease is nearing its end. Ernstene found in using the above as a criterion, that while the leucocytes frequently reached normal in from three to four weeks, the sedimentation rate failed to come to normal in twelve to fourteen weeks, and at times, in the polycyclic and continuous type of rheumatic fever, the sedimentation rate did not return to normal until many months after the leucocytic curve had reached the norm of 9000. He also found that even early in the disease, the sedimentation rate was a better index than the white blood count of the degree of infection, that while the cell count was from sixty to ninety per cent above normal, the sedimentation rate varied from 300 to 370 per cent above normal. His conclusions are worth repeating: "The instances in which the sedimentation rate remained elevated for weeks after the appearance of a normal white cell count indicate the advisability of substituting the sedimentation rate for the leucocyte count in deciding when the infection has ceased to be active, and it is believed that no patient should be allowed out of bed until the sedimentation rate has returned to, and remained, normal."

In cases of coronary occlusion, while its onset is more dramatic, the time for determining convalescence has been, in the past, clouded with doubt and uncertainty. Our former criteria, such as absence of fever, absence of leucocytosis, return of blood pressure to normal or above, and disappearance of ab-

normalities in the electrocardiograph, have not, in most instances, answered the very important questions of, has the lesion been healed, is the patient ready for work or exercise, and may bed rest be terminated? This problem has been studied by Shookhoof, Douglas, and Rabinowitz,[12 13] and also by Wolffe[11], Hirsh[4], and others, with the following conclusions:

First, the fever of coronary occlusion is short-lived, generally returning to normal within from forty-eight to seventy-two hours. This is closely paralleled by the leucocytosis, which generally will return to normal within a week. Blood pressure, in the majority of cases does not return to normal, and the electrocardiographic changes, while important, may present abnormalities that persist throughout life. An abnormal sedimentation rate, however, will, as a rule, outlast the return of the temperature and leucocytosis by as much as from four to six weeks. The sedimentation rate shows great abnormality, that is rapidity, during the second to the fifth day, and returns to normal generally around the thirty-ninth day. Patients not infrequently present themselves with a history of an attack of angina pectoris occurring several days, or even several weeks previously, which should arouse the suspicion of a recent coronary artery thrombosis. The temperature and blood count are usually normal at this time, and the electrocardiograph may be indefinite. It is in these cases that the sedimentation rate may be of the greatest help, and may be only direct evidence of active cardiac muscle involvement. Even if the diagnosis is clear it is of value as a sensitive indicator of subsequent thromboses, and enables one to gauge the rapidity of healing, and make less arbitrary the duration of bed rest. In a personal communication from Dr. Joseph B. Wolffe[11] of Philadelphia, he says as follows, "I fully agree with you that the sedimentation rate in coronary thrombosis is more valuable as an index of active pathologic process than a leucocyte count. As a matter of fact, I do not feel that there is any comparison. The leucocyte count, in our experience, is important only in the first forty-eight hours, while the importance of the sedimentation rate begins where the leucocyte count diminishes in value."

One of the earliest uses of the sedimentation rate was in the field of obstetrics and gynecology. In pregnancy, as was well established by Fahraeus, beginning with the second month there is a slow graduated increase up to term. This is useful in diagnosis of the retention of secundines in abortion, and in the diagnosis of ectopic pregnancy, and other abnormalities, characterized by either hemorrhage or infection, where the rate will be found definitely to be increased over that which would be normal for that month of pregnancy.

Acute and chronic salpingitis have been studied by Lesser and Goldberger[15], Polak[16], Rubin[17], Nicholson[18], Smith and Harper[19], and others. Their combined experience covers thousands of cases, and all are firmly convinced of the value of sedimentation rate in gynecology. The normal sedimentation rate was found to be an absolute assurance of the absence of pelvic infection. They used it as a guide when no case was operated upon for adnexal disease until the sedimentation rate was normal. It was constantly observed that long after temperature, white count, pain and tenderness had subsided, the more delicate sedimentation rate became a much more accurate prognosticator as to the most favorable time for operation. Polak and Tollefson[16] even went so far as to say that the individual was not released until the rate returned to normal, and said the sedimentation rate "never lies."

The differential diagnosis of the acute surgical abdomen offers many diagnostic problems, and the sedimentation rate is of great value in differentiating gastrointestinal from other intra-abdominal processes. Appendicitis for instance, either catarrhal, suppurative, or gangrenous causes no increase in the sedimentation rate, unless these are well established cases of either abscess or general-

ized peritonitis. It is quite evident that the sedimentation rate offers a distinct aid in the classical dilemma between acute salpingitis and appendicitis, that is, salpingitis gives a consistently abnormal or rapid blood sedimentation rate, and appendicitis a consistently normal one.

Acute conditions of genitourinary tract, such as pyonephrosis, pyelitis, ureteral calculus, and seminal vesiculitis do, on occasions, resemble acute appendicitis, and in these cases the blood sedimentation rate is constantly high. Disease of the gall-bladder, from acute suppuration to rupture, gives a consistent high sedimentation rate, while on the other hand, peptic ulcer, unless peritonitis is present, gives a consistently normal rate.

In still another field, Steinberg[20] has done some interesting work in comparing the Schilling count and the sedimentation rate as an index of differentiation of the atrophic from the hypertrophic forms of arthritis. In this correlated study, he concludes that the sedimentation rate seems to increase the accuracy of this diagnosis. The atrophic form shows a rapid sedimentation rate, while the hypertrophic form shows little or no change.

Probably in no field of medicine has the sedimentation rate meant more to the clinician than in the wise handling of tuberculosis. The test has been, and is, widely used abroad and in this country. Its value has been emphasized by Rubin[17], Cutler[21], Cohen[22], Ringer[7] and Walton[23]. It is generally conceded that activity of a tuberculous process is accompanied by a rapid sedimentation rate, and that an inactive process shows a rate within normal limits. Walton goes so far as to say, "a normal sedimentation rate has never been found with an active tuberculous focus." Here, too, as in rheumatic fever, it serves as a guide to reinfection, or extension, and some say that hemorrhage may be predicted when the rate is done routinely. No case of tuberculosis should be allowed to exercise until the rate is normal and has remained normal for a period of time, and, here too, the sedimentation rate is a more delicate indicator than temperature or pulse rate, and is a better approximate gauge than physical examination or x-ray. Ringer[7] closes his excellent article by saying, "In my own experience, based mainly upon cases of pulmonary tuberculosis, I have come to rely greatly upon it, (sedimentation rate), feeling that it re-enforces physical, radiological and symptomatic evidence, and frequently presages oncoming evil, or, on the other hand, gives one confidence in the ultimate outcome when clouds loom dark on the clinical horizon."

In one other field, to complete the cross section of the usefulness of this test, would I direct your attention—malignancy. Regardless of location, malignancy will cause an increased sedimentation rate, while a slow growing benign tumor without necrosis gives a normal one. However, after irradiation of any tumor the rate of sedimentation increases, probably due to decomposition of the tumor with a resultant increased amount of foreign protein in the blood. Schiller[24] says that if a malignant growth be removed by operation the sedimentation rate should return to normal within six weeks, if complete removal was obtained. If the rate remains normal for as long as six months a favorable prognosis is given; however, if the rate increases during that time, it is almost conclusive evidence of local recurrence or metastasis. This same guide may be used by the radiologist as an index to therapy.

I am well aware, as are others who have used this test, that there are certain limitations in its use, but what I am pleading for is a more universal adoption of it as a routine laboratory procedure. I believe it measures the intensity of a disease's progress more accurately than most of our usual accepted tests, such as temperature curve, pulse rate, and blood count. The changes in sedimentation rate parallel the severity of the disease, becoming more rapid as the disease becomes worse, and slowing down to normal as conditions subside. The sedimentation rate is not a substitute for any existing clinical or laboratory procedure, but is complimentary to them,

and, therefore, essential, for it fills certain important gaps. It does not give a diagnosis of a specific disease, but neither does fever nor leucocytosis. A normal sedimentation rate is not conclusive evidence that there is no disease, but it does show that disease, if present, is producing very little, if any, constitutional disturbance.

In diagnosis, the test has two values. First, as a diagnostic lead, and second, as a diagnostic gauge. As a diagnostic lead, it indicates the presence of a serious disease, not infrequently before the disease can be recognized by the usual clinical and laboratory methods. As a gauge of the constitutional disturbance, it indicates the intensity of the disease, and so, like fever, pulse rate, and blood count, but more exactly and with greater definition, helps to complete the diagnosis in a qualitative sense. It is another gift to the skillful physician in lessening the number of cases with a so-called diagnosis of "neurosis", and will help place these diseases in a category to which they rightfully belong. The few examples I have given show its value as a prognostic index, and as a guide to treatment. The sedimentation rate is not influenced by psychologic factors, and at times may be the only gauge of impending disaster, in spite of favorable clinical signs, such as absence of fever, gain in weight, and slowing of the pulse.

I fully realize that I have added nothing new to this particular subject, but I have found the test of great value to me in my private practice, and I thought by re-emphasizing its importance as a simple, easy laboratory procedure with many fields of usefulness, that you would not only find it of value in the subjects indicated, but that you would also open up new vistas of diagnostic possibility.

In closing, may I quote Cutler[8], who, in a very excellent article published some years ago, said, "The sedimentation test will not make a good doctor out of a poor one, but it will undoubtedly make a keener and better doctor out of a good one. The physician, and not the test, must determine the nature of the pathologic condition it points out to him. The test has served its purpose of diagnosis when it has indicated the existence of disease, thus warning the physician to make an unremitting search for the source of the disturbance."

Diseases Grouped According to Sedimentation Rates:

With an Abnormal Sedimentation Rate:

1. Chronic infectious diseases, such as tuberculosis and syphilis.

2. Acute infectious diseases, such as pneumonia, septicemia, acute endocarditis, the exanthemata and acute bronchitis.

3. Malignancy.

4. Localized suppurations, such as pelvic inflammatory disease, suppurative mastoiditis, suppurative sinusitis, empyema of the gall-bladder, bronchiectasis.

5. Acute intoxications, such as lead and arsenic poisoning.

6. Certain endocrine disturbances, such as thyroid toxicosis.

Influencing the sedimentation rate very little if at all: 1. Simple catarrhal inflammations, such as acute catarrhal appendicitis, simple rhinitis and colitis.

2. Chronic ulcerations of small extent, such as gastric or duodenal ulcer.

Not influencing the sedimentation rate:

1. Functional diseases, such as the various neuroses, and neuresthenia.

2. Certain nervous diseases such as dementia præcox.

3. Focal infections, such as abscessed teeth, diseased tonsils and chronic sinusitis.

4. Metabolic diseases, such as uncomplicated diabetes and essential hypertension.

5. Allergic diseases, such as asthma and hay fever.

6. Most skin diseases.

7. Simple growths, such as fibroma, lipoma and fibromyoma.

8. Simple cysts.
9. Chronic valvular disease of the heart.

(From J. W. Cutler)

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1. Factors that did not appreciably influence the rate of sedimentation:

(a) The use of different anti-coagulants.

(b) The use of the various standardized techniques for determining the rate.

(c) Variations in temperature between 20 to 30 degrees C. (room temperature).

(d) Remixing and resedimentation.

(e) Variation in the chemical constituents: blood sugar, non-protein nitrogen, calcium, phosphorus, CO^2 combining power, cholesterol, plasma and cell chlorides, and albumin-globulin ratio.

(f) Variation in the number of white blood cells and platelets.

2. Factors that moderately affect the rate:

(a) Delay of over two hours in running the test slowed the rate.

(b) Variation in the bore and length of the sedimentation tube.

(c) Extreme temperature variation below 20, and above 30 degrees C., cold slowing and heat hastening the settling of cells.

(d) Albumin-globulin content of blood—high values increasing the rate.

(e) Marked hyperglycemia of 200 mgm. or more slowing the rate.

3. Factors that markedly affect the rate:

(a) High fibrin generally accelerated the rate of sedimentation.

(b) High total lipoids in certain cases had the same effect as fibrin.

(c) Volume of packed cells—the smaller the volume, the quicker the sedimentation rate.

(d) Deviation of the sedimentation tube from perpendicular position.

(From K. Yardumian)

BIBLIOGRAPHY

1. Fahraeus, J.: Biochem. Ztschr., 1918, lxxxix, 335. (Quoted by Rubin, 2).

2. Rubin, E. H.: *The Relation of the Erythrocyte Sedimentation Reaction to the Ability of Flocculation of the Plasma and Serum*. Arch. Int. Med., 1926, xxvi, 848-860.

3. Galen: Referred to by Hirsh (4).

4. Hirsh, Joseph E.: *The Value of the Sedimentation Test as a Diagnostic Aid*. Ann. Int. Med., 1936, x, 495-504.

5. Biernacki, quoted by Grodinsky, M.: *The Sedimentation of the Blood in General Surgery*, Arch. Surg., 1932, xxiv, 660-674.

6. Linzenmeier, G.: Arch. f. Gynak., 1920, cxiii, 608. (Quoted by Ringer, 7).

7. Ringer, P.: *The Blood Sedimentation Test; Its Use as a Routine, Especially Pulmonary Tuberculosis*, Ann. Int. Med., 1934, viii, 258-267.

8. Cutler, J.: *The Practical Application of the Blood Sedimentation Test in General Medicine*, Am. Jr. Med. Sci., 1932, clxxxiii, 643-657.

9. Rourke, M. D., and Ernstene, A. C.: *Method for Correcting Erythrocyte Sedimentation Rate for Variations in Cell Volume Percentage of Blood*. Jr. Clin. Invest., 1930, viii, 545-559.

10. Cutler, J. W.: Personal Communication, April 2, 1937.

11. Swift, H. F., Miller, C. P., Jr., and Boots, R. H.: *The Leukocyte Curve as an Index of Infection in Rheumatic Fever*. J. Clin. Invest., 1924, i, 197.

12. Rabinowitz, M., Shookoff, C., and Douglas, A. H.: *The Red Cell Sedimentation Time in Coronary Occlusion*, Am. Heart Jr., 1931, vii, 52.

13. Shookhoff, Charles, Douglas, A. H., and Rabinowitz, M. A.: *Sedimentation Time in Acute Cardiac Infarction*, Ann. Int. Med., 1936, ix, 1101-1105.

14. Wolffe, Joseph B.: Personal Communication, April, 1937.

15. Lesser, A. and Goldberger, H. A.: *The Blood Sedimentation Test and Its Value in the Differential Diagnosis of Acute Appendicitis*, Surg. Gynec. and Obst., 1935, lx, 157-166.

16. Polak, J. O., and Tollefson, D. G.: *Clinical Significance of the Sedimentation Test*, Jr. Am. Med. Assoc., 1928, xc, 168-172.

17. Rubin, E. H.: *The Clinical Value of the Erythrocyte Sedimentation Reaction in Surgery*. Surg., Gynec. and Obst., 1926, xlii, 652-656.

18. Nicholson, D.: Laboratory Medicine. 1930.

19. Smith, C. T., Harper, T., and Watson, A.: *Sedimentation Time as an Aid in Differentiating Acute Appendicitis and Acute Salpingitis*, Am. Jr. Med. Sci., 1935, clxxxix, 383-387.

20. Steinberg, Charles LeRoy: *The Schilling Test in Fifty-nine Cases of Chronic Arthritis with a Correlated Sedimentation Rate in Thirty Cases*. Am. Jr. Med. Sci., cxc, 98.

21. Cutler, J.: *The Graphic Method for the Blood Sedimentation Test*, Am. Rev. Tuberc., 1929, xix, 544-558.

22. Cutler, J. W., and Cohen, L.: *The Blood Sedimentation Test as a Routine Procedure in the Tuberculosis Dispensary*, Am. Rev. Tuberc., 1930, xxi, 347.

23. Walton, A. C. R.: *Erythrocyte Sedimentation Test; Clinical and Experimental Study*. Quart. Jr. Med., 1933, ii, 79-115.

24. Schiller, S.: Personal Communication, quoted by Hirsh (4).

GASTROINTESTINAL ALLERGY*

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THE alimentary tract is a source of more complaints than probably any other part of the entire human body.

Allergy in some form is probably the most common cause of alimentary symptoms. It has been dealt with in medical literature for some time, but in very recent years much more emphasis has been placed upon this phase of digestive disturbances.

Food is by far the most common cause of this form of allergy. Occasional symptoms may arise from inhalant allergens, though this is hard to substantiate. It is well established, however, that an individual who is allergic to pollens and less so to foods will have gastrointestinal upsets from foods during attacks of hay fever or asthma and remain relatively free from symptoms when not suffering from the pollen type of allergy. In this discussion our remarks will deal with food allergy as it affects the entire alimentary canal. Any part of the mucous membrane, muscle, or glands of this canal may be affected by becoming hypersensitive to some food.

In presenting this paper I wish to express my gratitude especially to A. H. Rowe, Duke, Anderson, Schloss, Laroche, Ricket, Vaughn, Preston, Wilson, Alvarez, Cooke, Gay, Friedenwald and others whose study and writings have greatly increased our present-day knowledge of this subject.

The time of the onset of symptoms after ingestion of a food depends on many factors.

First: The degree of allergy in the affected areas.

Second: If contact allergy in the mucosa is present symptoms will not arise until the specific foods as they pass down the alimentary tract have reached the sensitized areas. Thus rather immediate reactions may occur in the mouth esophagus or stomach, and more delayed symptoms arise in the small intestine, cecum, and especially in the rest of the colon and rectum.

Third: Allergic reactions occur in affected tissues in many patients only after the causative foods have been eaten a number of days in succession. At times ingestion of such foods for several weeks is necessary before the existing desensitizations or tolerance is broken down.

It should always be stressed that similar symptoms may arise from other causes such as achylia, peptic ulcer, cholecystic, hepatic and pancreatic disease, colitis of various types, appendicitis, new growths, and other causes, bands, adhesions and anomalies, rectal and anal disease, hernia, psychoneurotic disturbances, carbohydrate intolerance, metabolic and cardiovascular disorders, and other less common diseases. Thus before food allergy is too definitely considered as a cause of symptoms, it is most important to execute all physical and laboratory examinations, including thorough röentgen ray studies which will rule out any such pathology or disease. In the following summary of symptoms those which may result from food allergy will be discussed. Burning of the mucous membrane of the lips, mouth, pharynx, esophagus, and of the stomach frequently arises from food allergy. Small areas of erythema with infiltration and resulting soreness also occur especially on the tip and sides of the tongue. A coated tongue should always suggest as one cause localized gastric, intestinal or colonic allergy, which has upset the intestinal gradient and thus produced reversed peristalsis. Heavy breath frequently disap-

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pears when the patient is on a proper elimination diet. The canker sore or aphthous stomatitis is frequently due to food allergy. These lesions may occur on the lips as from blisters causing swelling, infiltration, and prolonged soreness and may even be associated with similar lesions in the nasal mucosa near the borders of the alae, and extending on to the upper lip. Canker sores, moreover, may involve the pharynx and esophagus. Frequently they may recur or persist in one area of the cheeks, gums or lips. Fruits, especially in the fresh state, or nuts are frequent causes, though wheat, milk and eggs, or any other ingested food or drug may be at fault.

Small or large circumscribed edemas of the lips, tongue, or pharynx arise from allergy. Food is again the most common cause of such angioneurotic edema. Since such swelling may occur in the esophagus it offers one explanation at least for globus hystericus.

One lady recently seen, showed a rather deep ugly sore on the left side of her tongue that had persisted for five weeks. One prominent surgeon had advised resection and radium for carcinoma. A careful history suggested coffee as the etiological factor. Coffee was withdrawn from the diet and the ulcer healed in one week.

The gastric tissues are too often the site of food allergy. Superficial erythema and congestion, diffuse or localized similar to that observed in the mouth frequently arises. Patients gradually can determine specific foods which produce such mucosal reactions giving burning and possibly the sensation of heaviness, weight, and gastric consciousness. Allergy, of course, affects the cells of the gastric glands and accounts for excessive mucus and probably disturbs acid and pepsin production, though no definite proof of such effects is as yet available. Eosinophiles should be sought in gastric secretions as confirmatory evidence of gastric allergy. It is readily appreciated that mucosal and glandular congestion and smooth muscle spasm can explain the gastric unrest and impaired digestion which leads to belching, regurgitation, distention, sour stomach, nausea, vomiting, gastric soreness and even pain which may arise from gastric allergy to foods. The degree of such sensitizations determines the severity and the time of the origin of symptoms after the food ingestion. Spasm of the pylorus in infancy is usually due to food allergy, and it is probable that actual stenosis which requires surgical intervention may at times arise from this cause. The tendency to mucosal and cutaneous bleeding in allergy may also explain some so-called idiopathic gastric bleeding. Moreover, gastric symptoms of all types may arise secondarily from disturbances in the intestinal gradient and reverse peristalsis arising from allergic reactions in localized areas in the small intestine, hepatic structures, appendix, cecum, and even in the large bowel which will be described later. The nausea, vomiting, anorexia, belching and other gastric symptoms which usually accompany migraine or recurrent headaches are usually indirectly due to food allergy, since this etiology is responsible for the majority of such headaches. Finally the cyclic vomiting of youth which is gradually being recognized as a migraine equivalent is another indirect result of food sensitizations.

Increasing evidence indicates that peptic ulcer may frequently be due to lesions similar to canker sores in the mouth, which are increased in degree and size and prevented from healing by the continued action of the gastric acid and pepsin. Several Italian investigators, moreover, have shown that gastric incisions in senstized animals go on to ulceration when the animals are fed proteins to which they are sensitized. Since prolonged use of foods to which a person is sensitive will cause canker sores to remain indefinitely in the mouth it seems logical that the same condition would exist in the stomach so long as the offending food is taken.

All of us are familiar with cases who show all the signs and symptoms of peptic ulcer who get almost spectacular relief by merely adjusting their diet. We have in these cases probably removed the one food causing gas-

tric allergy. We are also familiar with proven ulcer cases who fail to get relief from alkalies and the most rigid diet control, while others on a less rigid diet obtain prompt relief. In the former type it may be the milk or other bland food causing the symptoms to persist and relief will not be obtained until the food such as milk which is producing the allergenic reaction is removed.

In the study of that large group of patients with pseudo-peptic ulcer one must consider food allergy as an etiological factor. The fact that a patient suffering from a pseudo-ulcer may have gastric hemorrhage, further points to food allergy as an etiological factor.

Carr reported a patient whose ulcer symptoms arose from milk and who had a fever of 104 degrees of allergic origin whenever milk was taken. Gay recently has become convinced of the frequency with which peptic ulcers are due to food allergy. Rinkel, Beecher, and Lintz have also discussed this problem. Thus in this disease of obscure etiology, the possibility that canker sore like lesions due to food allergy are a common cause, must receive increasing consideration, not only in the medical therapy, but postoperatively when surgery has been necessary. The recurrent ulcers after surgery, particularly of the gastrojejunal type may be of less frequent occurrence when food allergy is given due consideration. The ulcer diathesis may be due to allergy.

Hepatic and biliary allergy from food and probably from bacteria accounts for many symptoms in these tissues. This is not surprising since food allergens absorbed into the blood from the intestinal tract immediately course through the vascular channels of the liver. Such hepatic allergy is probably associated with edema, consequent swelling of the liver, pain and soreness and may result in transient jaundice and disturbed digestive function. Chronic allergy may be one cause of cirrhosis. Pain of varying degree may occur in the biliary structures including the gall-bladder from allergy. The writer has seen many cases with symptoms suggesting gall-bladder disease which were due to food allergy, and Alvarez has affirmed such pseudo-cholecystitis. Graham has emphasized the necessity of considering food allergy as one possibility in the differential diagnosis of all symptomatology in the upper right quadrant. Duke and others have stated that allergic congestion in the mucosa of the gall-bladder or appendix may predispose to infection or other pathology, and it is to be remembered that pathology and allergy may coexist and need equal consideration if symptoms are to be satisfactorily controlled. The writer is so thoroughly convinced that food allergy plays an important rôle in gall-bladder symptoms that we are now inclined to place almost as much emphasis on the value of our onion test in suspected gall-bladder attacks as we do on the röentgen ray findings. Experience of many years has convinced me that few patients with disease of the bile tract can eat onions in any form without distress varying from marked discomfort to severe attacks requiring opiates. Many patients with proven gall-bladder disease remain symptom free from year to year when they refrain from eating onions or food seasoned with them.

A case illustrative of this is Mrs. F., who had suffered for six years with recurring attacks of biliary colic. They usually required morphia for relief. Röentgen ray studies were negative for stones. It was finally observed that the attacks followed ingestion of onions; upon omission of onions from her diet she remained symptom free for almost two years when she ate a few pieces of potato salad. In four hours it was necessary to administer morphia for relief. This we believe adequately explains the reason some cases continue having their biliary attacks of pain after the surgeon has removed the gall-bladder and explored the bile ducts for stones.

In the small intestine, mucosal and smooth muscle reactivity in varying and localized areas, angioneurotic edema, and persistent localized contact reactions are probably responsible for disturbances in peristalsis with

resulting nausea, vomiting or anorexia, and for localized soreness, tenderness, cramping, hyperperistalsis with diarrhea, which are frequent manifestations of food allergy in these tissues. Idiopathic hemorrhages or bleeding and excessive intestinal mucus may also be of allergic origin. Symptoms of intestinal obstruction even with accompanying leucocytosis and fever may arise and lead to unnecessary surgery. At operation the allergic bowel presents a congested or edematous appearance. Localized swellings may be palpated and sterile free fluid in the abdominal cavity has been frequently encountered. Allergy in the small intestine and in the stomach and probably the colon occurs in patients with the gastrointestinal joint and cutaneous symptoms, frequently associated with purpura of the skin, and at times of the mucous membranes which have been described by Osler, Christian, and recently by Trimble, and which have been shown by Eyermann, Alexander, and Kahn, frequently to arise from food allergy. This syndrome was first described by Henoch and Schorlein.

Appendiceal allergy from food and probably from bacteria is of common occurrence. The writer is convinced of the frequency of allergy in the cecum, and such reactivity undoubtedly extends into the appendix. Edema and congestion leads to enlargement and probably obliteration of the lumen and repeated or persistent allergy may produce chronic tissue changes. Such congestion undoubtedly predisposes the appendix to infection and may be the original cause of many cases of acute appendicitis which demand surgery. The differentiation between an allergic and an infected appendix is a constant challenge to physicians. Many appendices have shown eosinophilic infiltration in a surprising number. The mistake must not be made, however, of assuming an allergic appendix when real infection is present. Because of the liability to infection, moreover, the appendix which becomes the seat of recurrent allergic reactions might best be removed.

Most of us can recall seeing patients with rather violent symptoms of appendicitis but with a blood picture not in keeping with the symptoms. When removed the appendix will show signs of mild inflammation. The question arises as to the cause of the violent symptoms to the extent the surgeon will explore the entire abdomen looking for other pathology. If that appendix is studied it will often be found to be infiltrated with eosinophiles showing this to be an allergic type rather than a true infection.

Allow me to repeat that in the presence of an acute attack of appendicitis, a diagnosis of allergy is not to be considered until the appendix is removed.

Colonic allergy especially to foods is very frequent. As previously stated, localized sensitization in the cecum and ascending colon are apt to arise, probably due to the comparative rapidity with which ingested food reaches this area and the retention of such food in this part of the colon. The opinion that such allergy is often of the contact type has already been expressed. Fruits of all types, especially when fresh seem to produce frequent cecal allergy, possibly due to their tendency to increase peristalsis and their consequent rapid arrival in the first part of the colon. Moreover, the tendency to overeat of fresh fruit is a factor. But other foods, especially when eaten in excessive amounts or alone may result in such localized sensitizations. Thus cecal allergy is responsible for much lower right quadrant soreness, distention, and even pain, and often explains the lack of relief from appendectomy. Tenderness and pain around abdominal scars have often been found to result from persistent food sensitizations.

Constipation due to allergy is often accompanied by varying amounts of mucus, the presence of which should always suggest the possibility of hypersensitiveness to some food. It is important to emphasize that localized allergy in different parts of the large bowel often produces sudden attacks of severe cramping, pain or persistent soreness which

are difficult to explain. Such spasm has been visualized by the röentgen ray.

It must be pointed out that the so-called unstable or spastic colon is a frequent manifestation of allergy. Such irritability should always receive adequate and prolonged study from the allergic viewpoint which, of course, necessitates diet trial with the elimination type of diet modified if desired by positive skin reactions. The common conception that roughage is usually responsible should only be adopted as an explanation in the patient after every possibility of the underlying causes has been expertly studied. In studying this condition of the colon, one had best consider it from several angles if one desires to evaluate the causes properly. It is well to remember in the study of all forms of allergy that those people who are highly nervous and subject to great mental or emotional strain and stress are more responsive to allergic products while under their strain or emotion than at other times. Thus food alone may not be sufficient to produce the spasm in the muscle wall of the colon under ordinary circumstances, but in the presence of great emotional strain violent spasms may occur. The much used and popular term mucous colitis should not be used to describe these cases because organic disease cannot be demonstrated. Sensitive colon is a much better term because the exciting factor of the attacks in an emotional strain probably superimposed upon a mild allergic reaction to certain foods. The successful treatment of these cases should be directed at the correction of the underlying causes and not at the colon. In the irritable bowel especially, the probability of chronic allergic lesions must be considered which requires prolonged and complete elimination of the causative foods before a return to normal tissue structure and function can be expected. The time required for the cutaneous eczema to disappear after the allergenic foods have been removed is illustrative of this idea. The writer has been very much impressed in dealing with these cases of spastic or irritable colon by watching the effects of corn. Almost without exception they remain more comfortable if corn or corn meal is entirely eliminated from the diet. The recent demonstration that nasal polypi are practically always of allergic origin suggests that certain polyps in the colon may arise from a similar cause. Whether extensive colonic polyposis may originally be due to an underlying allergy must also be considered.

This brief discussion can only emphasize the possibilities of colonic allergy in the production of abdominal symptoms and predicts the increasing realization of its frequency as a wider and better knowledge of its causes and pathology develops during the coming years.

Etiology: As already stated, food allergy is the most frequent cause of the alimentary manifestations which have been described. The intimate and prolonged contact that food has with its mucosa makes it the most logical cause of such allergy, and the gastrointestinal tract as the most frequent site of its effects. As with all other allergens, those foods which are eaten most frequently and in largest amounts must always be under suspicion. Moreover, those foods which may be eaten occasionally, especially in the fresh state with intervening long periods of abstinence such as shell fish and fresh fruits, tend to produce gastrointestinal allergy. This may be especially frequent when they are eaten alone. Moreover, it is probable, though difficult actually to prove, that foods are most likely to establish sensitizations during periods of indigestion, especially in children.

Diagnosis: If success is to crown our achievements in these cases a very careful and painstaking history must be taken of the patient and his family history must be carefully investigated for some form of allergy.

Food allergy is usually, though not necessarily indicated by various points in the history. The occurrence of chronic indigestion, constipation, recurrent headaches, or cutaneous edemas in the family history or of any of these symptoms discussed in this paper occurring in the personal history should sug-

gest the possibility of food allergy. Of great importance is the history of food dislikes and disagreements or of long standing anorexia without adequate explanation. The story of specific dislikes or idiosyncrasies frequently points to actual allergy to those foods, though it often is explained by whims or imaginary disagreements.

Foods productive of immediate and acute reactions in the alimentary or other body tissues are apt to be associated with skin reactions. It is, therefore, justifiable to do scratch testing with allergens of all ingested foods. Subsequent intradermal testing with those allergens which have failed to react by the cutaneous test has yielded confusing and little additional information of value. Moreover, the value of positive skin tests must be affirmed with actual diet trial. As with other manifestations of food allergy, most foods productive of alimentary symptoms are not associated with skin sensitizing bodies. The symptoms which are late in appearance may result from cumulative effects from repeated ingestions or may be due to localized contact allergy in the mucosa. The reacting bodies may be confined to the shock tissues accounting for the negative skin reactions.

The method advocated by Vaughn of feeding the suspected foods and then studying the leucopenic index has its advocates. There are many outstanding allergists who claim their results from this form of study are not satisfactory. Until those men with excellent facilities and material do agree on the value of this test it would seem best for those of us with fewer facilities and less material to confine ourselves to more established methods of diagnosis.

Thus as with all food allergy, trial diet is of greater importance than skin testing. Such dieting must be carried out with foods which rarely or infrequently produce allergy in average patients. For such purposes elimination diets have been formulated and have found frequent use for the study and control of manifestations of food allergy. These diets should be modified by histories of food disagreements or dislikes or by definite scratch reactions to food allergens. If routine elimination diets are not remedial, supplemental diets containing a very limited group of foods, but with adequate protein, vitamins, minerals, and calories must be tried. Reactions to biologically related foods must be remembered. The tendency for fresh and even cooked fruits of all types and occasionally for many vegetables to yield gastrointestinal allergy must be kept in mind.

Treatment: Food allergy necessarily has to be controlled in order to be assured of the etiological causes. Thus as diagnosis proceeds and various foods are discovered which produce gastrointestinal symptoms, treatment progresses. Because of the fact that it often requires days or weeks for symptoms to be relieved after the removal of a food from the diet and since symptoms often recur only after the causative food has been ingested for days, weeks, or even months, the gradual determination of the diet which produces the least gastrointestinal allergy often requires many months. Certain patients are sensitive in varying degrees to a great many or nearly all foods as others are to nearly all pollens. The first diets necessarily for such patients may have to contain foods which are only mildly allergenic. There is no sharp division necessarily between foods which are non-allergic and those which are allergic in many cases. In addition, the prolonged elimination of allergenic foods seems to be accompanied by increasing freedom from former symptoms and a steady return to normal health. This may be due to a gradual disappearance of cellular disturbances which have resulted from the prolonged chronic food allergy.

After the patient has learned the technique of testing new foods when he is practically symptom-free on a comparatively or absolutely non-allergenic diet, he can gradually try other foods in his diet. However, the tendency to forget that slight deviations gradually produce trouble, and that symptoms may not reappear for weeks after a new food has been constantly taken, makes it wise

for the physician to admonish and advise the patient at frequent intervals for long periods.

Desensitization may gradually arise with the continued elimination of the food from the diet. This may occur in a month, a year, five to ten years, or may never occur. Oral desensitization continues to be described and is worthy of trial. Hypodermic desensitization is rarely satisfactory. The use of acid and digestive ferment therapy has been of no aid in problems of food allergy except when indigestion from the lack of these essential substances has been present. Thus relief of symptoms is the reward offered for the necessary will power required to eliminate allergenic foods over long periods of time in the control of food sensitizations.

BIBLIOGRAPHY

Rowe, A. H.: *Gastrointestinal Allergy*, J. A. M. A., 97-1440; 1931.

Alvarez, W. C.: *Foods That Commonly Disagree with People*, J. A. M. A., 104-2053, 1935.

Alvarez, W. C.: Personal Communication, 1937.

Cooke, Robt. A.: Personal Communication, 1937.

Rowe, A. H.: *Gastrointestinal Allergy*, The Journal Lancet; 58-136.

Friedenwald, J. and Morrison, S.: *Food Allergy in Its Relation to Gastrointestinal Diseases*, American Journal Digest, Dis. and Nutrition; 1:100, 1934.

Davidson, M. T.: *Relation of Allergy to Gastroenterology*. South. M. J.; 28, 202: 1936.

Rowe, A. H.: *"Elimination Diet" for the Diagnosis and Treatment of Food Allergy*. Amer. J. of Diges. Dis.; 2:5, 1935.

DIAGNOSIS AND TREATMENT OF TRICHOMONAS VAGINALIS VAGINITIS*

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In recent years much controversy has arisen and many remedies have been tried in the proper diagnosis and treatment of trichomonas vaginalis vaginitis. Some observers have stated that the trichomonas may be present in the vagina without initiating symptoms. Many clinicians, however, have come to the conclusion that the organism is pathogenic, in that it may provoke a purulent discharge, of a creamy, yellow or a greenish, white color, acid and frothy or foamy in character because it contains air bubbles and an accompanying inflammation of the vaginal vault. The discharge has a characteristic sour odor that once encountered is not to be forgotten.

The diagnosis, of course, is made by the finding of the organism, but it should be suspected in every case where the following observations are found: Excoriation of the vulva, suprapubic spaces or inner surfaces of the thighs produced by scratching, because of itching or burning, bladder or urethral symptoms such as frequency, burning, itching, dysuria or nocturia. Dyspareunia is a common symptom, occurring in 20 per cent of cases.

The vaginal mucosa presents a characteristic appearance in that it is strawberry red in color, sometimes granular, and sometimes showing petechial spots similar to the seeds on a strawberry. The vaginitis may be so severe that the mere insertion of a bivalve speculum produces pain and discomfort.

The best method of examination for the organism is to obtain a loop of discharge by the aid of a speculum and a platinum loop and dilute this with a loop of physiologic salt solution on a glass slide. Place a cover glass on this and examine under the low power of the microscope. The characteristic protozoan, a pear-shaped organism having two or three flagellæ, can be demonstrated by careful search, among the great number of pus cells and debris. This organism does not take the Gram stain and dies quickly on drying.

A multitude of treatments have been recommended for the treatment of the condition. In general they are of two types—wet and dry.

*Read before the Monongalia County Medical Society on April 6, 1937.

The wet method consists of cleansing the vagina with tincture of green soap by gentle scrubbing, and then flushing by tap water or normal saline and then applying one of many substances to the affected surfaces. Some of these substances are listed, namely: mercurochrome, acriflavine, boroglyceride, ichthyolate, tincture of iodine, tincture of metaphen, tincture of merthiolate, mercury bichloride, various solutions of silver, etc. The patient is instructed to douche with sodium bicarbonate or salt solution between treatments, which are given every other day.

The dry method consists of wiping the vagina with cotton pledgets until thoroughly dry and then instilling powder of various kinds. Those usually used are kaolin, cornstarch or boric acid powders, either alone or combined with antiseptics.

The patients are usually treated every other day or twice a week in the office and instructed to douche at home twice a day.

I have treated 16 cases of this condition—a few severe—most of them mild, with gratifying results in every case but one. The treatment I have found most satisfactory is as follows:

The patient is placed in the lithotomy position and after insertion of a bivalve speculum, the vaginal vault is thoroughly wiped out and dried with cotton pledgets. The cervix, if it shows evidence of endocervicitis, and I may say here that this is seldom the case in this condition, is cauterized by the electric cautery. The entire surface of the vaginal vault is covered with a powder of kaolin containing one per cent silver picrate, through the use of the Shelanski insufflator or other suitable instrument. This treatment is repeated three times at weekly intervals. The patient is instructed to insert each night, excepting the night of the treatment day, a suppository of silver picrate (two grains) in cocoa butter for six nights and to avoid douches during the course of treatment.

Examination showed an absence of the organism over a period of six months in all cases but one. I believe this case did not respond because of accompanying pelvic pathology.

Four cases had a recurrence of itching and slight vaginal discharge which responded quickly to salt douches once a day, using the following proportions: One glass of table salt to four glasses of water.

The only complaint voiced by the patients using this form of treatment was the yellowish stain on the skin and underclothing caused by the medication.

TAKE ACCOUNT AT AGE OF FORTY

It is important for the young woman on the threshold of middle life to know how she stands at this time regarding the presence of chronic disease. Therefore Dr. Eoline Church Dubois offers her an opportunity for this in her article "Health Notes for the Woman of Forty" which appears in the June issue of *Hygeia*.

She should at this time make a careful survey of her present physical condition, checking up, as it were, on how much life has already exacted of her and what her defenses may be. One of the first questions is, Are there any extra pounds which are not needed?

Everybody knows that extra fat makes the heart work faster, that the normal circulation is interfered with, that fat leads to diabetes and that long lived people are almost never fat. Whether you do or do not eat as much as or more than your thin sisters the bitter truth amounts to this: You are eating more than your body can use, and if you fail to balance income with outgo, trouble must follow.

Get the habit of cutting down the non-essentials of diet; eat slowly, and chew thoroughly. The same rules apply if there is digestive disorder. This may mean that the digestive organs are being given too much to do, that the meals are too close together, that too much is eaten at one time or that the food is not properly prepared.

It is such cases of disturbed function, which are regarded as unimportant in the beginning and are therefore neglected, that are responsible for later permanent anatomic changes characteristic of oncoming age.

It is accepted that persons with weak constitutions can never be made robust, but still they may easily outlive their stronger contemporaries.

INTERNAL DERANGEMENTS OF THE KNEE

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In discussing this subject I wish to take up injuries and diseases of the semilunar cartilages, injuries of the crucial ligaments, the lateral ligaments of the knee, and slipping patella. Loose bodies in the knee joint, including osteochondritis dissecans will be touched upon briefly.

Of chief importance are the injuries to the semilunar cartilages. As is well known, those of the internal semilunar cartilage outnumber those of the external cartilage. The ratio varies from two to seven as given by Campbell[1] to one to 10 as given by Henderson.[2] The chief reason for the larger number of internal cartilages suffering injury is that this cartilage is firmly attached to the capsule and will tear, rather than give way, in twisting injuries to the knee. The external cartilage on the other hand is loosely attached to the external capsule and may be easily torn and rolled up with very little injury to its substance.

Injuries to the cartilages are produced when forcible extension of the leg is carried out at the time that the tibia is rotated slightly outward at the knee. When this occurs the cartilage is caught between the internal condyle of the femur and the internal tuberosity of the tibia. It either breaks loose and is forced to the center of the joint or tears. The latter is the more common result. Tears of the cartilage are of various types, depending on the part of the cartilage injured. The most common of them is the bucket-handle fracture, so called by Rutherford Morison. In this fracture the split is longitudinal, the medial part being displaced toward the center of the joint. In this fracture both ends of the loose piece remain attached, thus resembling the handle of the old-fashioned bucket.

The symptoms of fractured cartilage are catching and the sensation that there is something loose in the joint. Occasionally at the original injury the cartilage will be so caught between the bone ends that locking is produced and neither flexion nor extension is possible until reduction of the dislocation takes place. In the chronic cases, many lockings or simple catchings occur. Usually the patient feels something slip in the joint and finds that he is unable to complete his step. By twisting the knee the loose cartilage is dislodged and full motion is again possible. At times locking occurs so quickly that the patient falls to the ground. These symptoms are accompanied by a moderate degree of pain and swelling which rapidly subsides when the dislocated meniscus is replaced.

Diagnosis in these cases rests chiefly on the history. X-rays are of little value as cartilage is not shown. The injection of air and oxygen has been advocated, as has also the use of an instrument known as the arthroscope, but none of these methods has gained wide acceptance. The history of a twisting injury to the knee, accompanied by locking and swelling is indicative of a displaced and probably fractured, cartilage. When the history is that of recurring catchings and lockings, and the x-ray is negative, then the diagnosis of fractured cartilage can be made with a fair degree of certainty.

In the acute case of displaced cartilage, closed reduction should be attempted. This should be done under anesthesia and spinal anesthesia is ideal for this work. The hip and knee are acutely flexed and the knee is rocked and rotated from side to side and adducted as much as possible. Suddenly, with the muscles completely relaxed, the leg is extended and rotated outward. When reduction is accomplished there will be elicited a defi-

nite click or snap. The leg should be placed in a plaster cast for at least thirty days, during which time weight is borne. At the end of this time a knee cage is applied and active motion instituted.

In the chronic cases the only relief is that afforded by surgery. Various incisions are advocated, but I believe that the long internal lateral incision as advocated by Krida[3] is preferable. This starts above the patella in the midline, runs down along the medial side of the patella, then swings over to the midline again. The patella can be dislocated laterally, thus affording a wide view of the joint. It is not necessary to remove all of the cartilage, the anterior four-fifths being sufficient. Following the operation the leg may be placed on a long plaster splint or merely immobilized in several layers of sheet cotton wadding. Active and passive motions are begun in about ten days and inside of two weeks the patient is allowed up to walk with crutches. These patients are usually able to return to their regular occupations within one month. The procedure in injuries to the external semilunar cartilages is the same as that for the internal cartilages.

Cysts of the semilunar cartilages are very rare and occur more commonly in the external cartilage. The diagnosis is made on the finding of a small, firm tumor mass over the lateral side of the knee which produces aching pain. X-ray is negative. Treatment in these cases consists in removal of the cartilage and cyst en masse. The postoperative treatment is the same as that for fractured semilunar cartilage.

Injuries to the crucial ligaments are produced in a manner similar to that in which cartilages are injured. The knee is swollen and tender and x-rays are negative. When the anterior crucial ligament is ruptured the tibia can be brought forward on the femur when the knee is flexed. When the posterior crucial ligament is ruptured the tibia can be pushed backward on the femur. When the injury is acute, immobilization in a long plaster cast for six weeks usually allows sufficient union to take place so that the knee is serviceable.

In the chronic cases, even a well-marked degree of instability does not deter ambitious workmen from carrying on. In a few cases it may be necessary to reconstruct new ligaments to take the place of the ruptured anterior crucial ligament. Operations of this type have been described by Hey Groves,[4] Smith,[5] and others. In these, a piece of fascia lata is removed from the thigh and threaded through drill holes in the condyles of the femur and tibia.

Injuries to the lateral and medial ligaments of the knee are frequently seen. These are diagnosed by the finding of lateral instability toward either side. At the point of rupture of the ligament there usually is some swelling and tenderness. Immobilization in a plaster cast from four to six weeks followed by gradual weight bearing, usually results in a cure. Occasionally, elevating the inner side of the heel in tears of the medial collateral ligament and the outer side of the heel in tears of the lateral ligament will be necessary to aid in recovery. In wide rupture of the ligaments, it is occasionally necessary to reconstruct the ligament by means of fascia lata strips from the thigh.

Loose bodies in the knee may be produced by the following:

1. Chronic proliferative arthritis with pieces of bone breaking off.
2. Osteochondritis dissecans.
3. Hypermobility of the patella.
4. Osteochondromatosis.
5. Neuropathic arthropathies — Charcot's disease.

The history in these cases is that of something slipping around in the joint and occasional lockings. These are never so marked as in the case of fractured semilunar cartilage, but are definitely annoying and disabling. X-rays usually show the loose bodies and then the question of treatment must be considered.

In chronic arthritis, I believe that it is unwise to operate on the knee unless the dis-

ability is severe. It is difficult to remove all of the bodies and frequently some will form later and break off. Then again, these incisions frequently break down and are slow to heal.

Osteochondritis dissecans has been the subject of debate for many years. In the knee an area of necrosis appears on the joint surface of the medial femoral condyle and a loose body is formed beneath the cartilage. A sensation of weakness and pain is produced in the early stages, and after the loose body has been extruded into the joint, locking occurs. I have seen one case in which this condition was found in both knees at the same time. I have also seen knees explored and no loose body found until the cartilage was cut through and the body evacuated. The condition occurs also in the elbow, hip and shoulder, but is most common in the knee. Removal of the loose bodies usually results in cure.

Hypermobility of the patella may produce loose bodies by irritation of the synovial membrane. I will go further into this condition later. Removal of the bodies and operation to tighten the patellar ligament is indicated.

Osteochondromatosis is a benign neoplastic process in which many fine loose bodies are found. They are made up of bone covered by cartilage. Palpating a knee affected by this condition produces a sensation as though one were feeling a sack of gravel. Removal of the loose bodies is of temporary benefit, as usually more will form.

Neuropathic arthropathies, or Charcot's joints, produce loose bodies of varying size. It is the general laxity and instability of the knee which produces the greatest disability in these cases, rather than the movement in the joint of the loose bodies. The wearing of braces is the only method of treatment that is of value, although some authors recently have reported successful results in fusing these joints. Following this, however, the tibia or femur may fracture due to the new strain and the fragility of the bone.

In removing the various kinds of loose bodies from the knee, the long internal lateral incision, as previously described, is used. However, at times the bodies may be on the lateral side of the joint or in the posterior compartment. An external lateral incision will afford access to those on the lateral side of the joint, but to get bodies in the posterior compartment, posterior incisions must be made. These may be medial or lateral and usually are not more than two and one-half inches long. Care must be taken to avoid the peroneal nerve when making the posterior lateral incision, but otherwise, opening into the joint may be easily made. It will be found that these incisions will be deeper than the anterior ones and that the view of the posterior compartment is limited. Removal of loose bodies through such incisions usually is done by manual palpation.

I believe that any operation on the knee is facilitated by the use of a tourniquet. I use a length of ordinary heavy rubber tubing looped three times around a folded towel. An Esmarch bandage of fine rubber will do as well.

Hypermobile, or slipping patella is usually seen in females. These patients suffer from the time they learn to walk. They will say that their knees become dislocated and then go back into place. The patella goes to the outer side and is easily replaced. If uncorrected, pathologic changes in the joint occur giving rise to pain, swelling and the formation of loose bodies. There are several operations to correct this. One which I have seen used successfully is to chisel away the part of the tibial tubercle to which the patellar tendon is attached. An area of bone on the medial side of the tibia, medial to and below this, is roughened and the tubercle, carrying the tendon, moved medially. It is anchored in place with a beef bone screw and the leg is immobilized in a plaster cast. After three weeks, motion is begun. It may take six months to one year before normal use of the limb returns, but if the operation is correctly performed, no further dislocations result.[6]

In complete dislocation of the knee many ligaments must necessarily be ruptured. Usually both crucials, and either one or both lateral ligaments are torn. Following reduction and immobilization, it is surprising how nearly normal these knees become. I shall refer to a case of this kind later. Many men suffering complete dislocation of their knees have later returned to work, thus making us question the advisability of undertaking complicated operations for the repair of crucial or lateral ligaments.

ILLUSTRATIVE CASES

S. L. P., 35—Mine Electrician: First treated for dislocation internal semilunar cartilage of left knee in August, 1934. The dislocation was reduced and he wore a plaster mold two weeks, and following this had no more trouble until July 6, 1936, when he began having pain in the knee and found that he was unable to straighten the leg.

FIG. 1. Showing typical bucket-handle fracture of internal semilunar cartilage. The part displaced medially was inadvertently cut through when the cartilage was removed.

Examination revealed that the knee could be extended to 170 degrees only. Flexion was normal and there was no instability. There was slight swelling but x-ray was negative. A diagnosis of fracture and dislocation of the internal semilunar cartilage was made.

On July 8 the knee was explored and a typical bucket-handle fracture of the internal meniscus was found—the medial half being in the center of the joint and the lateral half remaining attached to the capsule. The anterior four-fifths of the cartilage was removed.

Stitches were removed on the ninth day and the patient was allowed to leave the hospital using crutches on the thirteenth day. He returned to work twenty-six days after the operation and when seen on September 30, 1936, had motion of the knee between 180 and 120 degrees. The wound was solidly healed and there was no swelling or instability. He had had no locking subsequent to operation. The lack of complete flexion is unusual, but I believe that he will obtain complete motion in time. This illustrates a case in which a fracture and dislocation of the cartilage occurred and following reduction gave no trouble for nearly two years, when it again became dislocated.

H. G. W., age 19, coal loader: On July 16, 1936, while going to work, he fell and injured his left knee. When seen at the hospital twelve days later it was found that he could extend the knee to 160 degrees only. Flexion was normal and there was no instability. On attempting complete extension the tibia seemed to strike a rubbery object which prevented further motion. X-ray was negative, and a diagnosis of fractured and dislocated internal semilunar cartilage was made. He was advised to return for examination under spinal anesthesia. If the knee still could not be extended when all muscles were relaxed then the diagnosis of fractured cartilage was fairly certain. If, on the other hand, the knee could be completely extended the trouble could be laid to muscle spasm.

On August 13, 1936, this procedure was carried out and it was found that complete extension was impossible. The leg was prepared and the knee explored through the

usual incision. A typical bucket-handle fracture of the medial meniscus was found and the larger part of the cartilage excised.

The wound healed except for one small sinus which drained blood for several days. For this reason the patient stayed in the hospital twenty-four days after the operation. When examined on September 29, 1936, seven weeks after operation, the wound was cleanly healed and the knee moved between 180 and 85 degrees. The knee was slightly swollen and tender, but he was getting along well.

This illustrates a case of acute fracture with dislocation of part of the cartilage. This cartilage had never been reduced.

Patient was seen on December 18, 1936, at which time he stated that he had returned to work October 2, 1936, eight and one-half weeks following operation. He stated that the knee gives him absolutely no trouble and examination revealed a normal joint.

III. A. C., age 20, coal loader: When first seen at the hospital on February 8, 1936, patient stated that he had had pain in his right knee for two weeks. He remembered no definite injury. Examination revealed a firm, tender, slightly movable mass two by three cm., over the lateral tuberosity of the tibia. There was no swelling, stiffness or instability of the knee joint itself. X-ray showed a faint soft tissue shadow but no bone involvement. A diagnosis of cyst of the external semilunar cartilage was made.

On February 10, the knee was explored through an external lateral incision. The mass was found to be indistinguishable from the external semilunar cartilage, which was removed.

Pathologic examination revealed several small, thin-walled cysts in the cartilage and a diagnosis of mucoid and cystic degeneration of the external semilunar cartilage was made.

The wound healed nicely and the patient left the hospital seventeen days after operation. The wound opened later and drained a thin, yellow fluid. Motion returned very slowly and the knee pained for several weeks. The incision finally healed and on April 24, 1936, the knee moved between 180 and 90 degrees. There was slight swelling and the patient walked with a very slight limp. He returned to work shortly after this, more than two and one-half months after operation.

This is a rare case of cyst of the meniscus and the convalescence was rather prolonged.

IV. E. D., age 23, coal loader: Patient was admitted to the hospital November 15, 1935, having suffered an injury to his right knee in a fall of slate. The knee was swollen and distorted. X-ray showed a dislocation backward of the tibia on the femur. The tibial spine was fractured also.

The patient was given evipal anesthesia and the dislocation reduced. A posterior metal splint was immediately applied which was replaced by a long leg cast four days later. He was allowed to leave the hospital nine days after admission, wearing the cast. This was removed after six weeks and he began weight bearing. When last seen on March 23, 1936, the knee moved between 180 and 85 degrees, and there was slight anterioposterior instability of the femur on the tibia. In a recent letter he states that he returned to work April 7, 1936, not quite five months after his injury. The knee is not as strong as before, and he has had to lay off twice, for periods of three to four days, but he thinks he has a pretty good leg.

This illustrates the good result that may be obtained following a complete dislocation of the knee when the crucial ligaments, and in this case the internal lateral ligament, were ruptured. The cases in which artificial ligaments must be constructed are few.

V. W. W., age 19, electrician: When first seen at the hospital on September 9, 1935, patient had been unable to completely flex his right knee for two days. He had been seized with what seemed to be a cramp in the muscles of the calf of the leg and the pain did not disappear. He remembered no injury. He gave a history of bilateral dislocation of the patella going back over several years. The last one had been of the right

patella six months before admission. More recently he had noticed something catching in his right knee as he worked with it flexed.

Examination showed motion between 180 and 85 degrees, and attempts at further flexion produced pain. There was no swelling, tenderness or instability. Both patellas were hypermobile. X-rays revealed two loose bodies measuring two by one cm. in the knee joint. A diagnosis of loose bodies produced by the irritation of the hypermobile patella was made and operation advised.

This was carried out the following day under spinal anesthesia. The first incision was the internal lateral incision and only one small cartilaginous body was found. An external lateral incision was then made and one large loose body immediately found and removed. The other loose body could not be found until a posterior lateral incision was made. After much difficulty, the second large loose body was found and removed.

The stitches were removed on the ninth day and the patient left the hospital on the sixteenth day after the operation. Motion returned slowly and patient returned to work approximately six weeks after the operation. When examined on October 2, 1936, the knee moved between 180 and 85 degrees. He had no pain or disability of any kind. The patellas were hypermobile, but had not dislocated again. This illustrates the trouble that may be produced by a slipping patella, also the value of the posterior incision.

Conclusion: 1. A series of cases of internal derangement of the knee is presented.

2. The more common lesions in this group are discussed.

3. The value of the long internal lateral and posterior incisions in surgery of the knee joint is shown.

BIBLIOGRAPHY

1. Campbell, Willis C.: *Internal Derangement of the Knee*, Surgery, Gynecology and Obstetrics, LII, 568-572, 1931.

2. Henderson, Melvin S.: *Derangements of the Knee Joint*, Southern Surgeon, III, 123-129, 1934.

3. Krida, A.: *A General Utility Incision for Exploration of the Knee Joint*, Jour. Bone & Joint Surgery, 23-212, 1925.

4. Groves, E. W. Hey: *Operation for Repair of Crucial Ligament*, Lancet II, 674, 1917.

5. Smith, S. Alwyn: *The Diagnosis and Treatment of Injuries to the Crucial Ligament*, British Jour. of Surgery, VI, 176, 1918-1919.

6. Henderson, Melvin S.: *Surgical Conditions of the Knee Joint*, American Jour. of Surgery, XXVI, No. 3, 499-512, 1934.

GONORRHEA

Most cases of gonorrhea are contracted between the ages of 15 and 30 years, Drs. Marie Pichel Warner and Benjamin W. Warner declare in their article on "Gonorrhea" in the June issue of *Hygeia*.

Gonorrhea is the most widely spread social disease, and often ignorance or shame prevents infected individuals from seeking medical treatment which can generally cure the condition. The diagnosis can be made easily with modern aids; but in the chronic stages, diagnosis may require more extensive examination and tests.

Education is the keynote to the control of this disease. The earliest age at which young boys and girls can understand this information is the time to present the facts to them and to warn them of the dangers. The toll of ignorance is only too evident in the large numbers of young people who become infected.

Gonorrhea is a contagious infectious disease resulting in an inflammation of the lining of the genitourinary tract. It is due to a germ called the gonococcus, which was discovered in 1871 by Albert Neisser, a German physician. For the germ's existence there must be moisture; so the deprivation of this factor as well as the application of heat will destroy the organism effectively. Boiling will sterilize contaminated clothing and linens.

Unlike syphilis, which can infect the skin on any portion of the body, gonorrhea attacks only the mucous membranes, which are the tissues covering the mouth, eyes, genitals and internal passages of the bladder and bowels; occasionally in the late stages it attacks the lining of the heart, the joints and the lining around the liver.

The first symptoms of gonorrhea appear in the infected individual in from two to five days after exposure; they consist of pain, discomfort and a discharge of pus. While not every discharge in the male indicates gonorrhea, all such discharges require microscopic examination to determine the presence or absence of the disease.

THE PERSONALITY PANEL IN HISTORY*

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MODERN medical investigators realize that individuals fall into certain personality groups and where sufficient information is available it is possible to look back over the pages of history and select from the innumerable list of names of men and women whose deeds are recounted there outstanding examples of these groups, namely; schizoid, epileptoid, paranoid, and cycloid. It is my purpose to present to you a brief personality panel of history. Of the personalities to be mentioned some were definitely psychotic and presented characteristic symptoms.

In 1412, a female child was born at Domremy, France. When she was 13 years old she heard an angel's voice say, "Jeanne, be good. Go to church often." As she grew older she enjoyed going out in the fields and communing with the voices that she came to identify as those of St. Michael, Ste. Catherine, and Ste. Margaret. At that time England and France were at war with the fortunes much in favor of England. Henry VI of England had been crowned King of France in 1422. For four years voices talked to Joan of Arc and finally St. Michael said to her, "Jeanne, you are summoned to lead a different life and to do marvelous things, for it is you whom the King of Heaven has chosen to restore happiness to France and to aid King Charles. Put on man's clothes, arm yourself, you shall be the chief in war and all shall be done according to your advice." It was in 1429 when the city of Orleans was besieged and its capture imminent, that Joan complied with the Heavenly order, donned male attire, and appealed to the French authorities to commissioner her. She was rejected as insane but the plight of France was desperate and finally the commander at Vancouleurs sent her to the Dauphin Charles. After being examined by a group of noted scholars of the church she was accepted, encased in a coat of knightly armor, and given a white banner of her own choice, depicting Christ holding the world. She succeeded in arousing the enthusiasm of the defeated French soldiery and raising the siege of Orleans. The Dauphin was crowned King of France and today Joan of Arc is known as the "Maid of Orleans." She is beloved by the French and canonized by the Catholic Church. However, when she fell into the hands of the English she was tried for sorcery and burned at the stake as a witch.

This schizoid girl was unable to sublimate the unconscious conflicts arising from early fixations of which we have no knowledge. Her homosexuality is manifested by donning male attire in an age when that alone would be sufficient to condemn her. Her auditory hallucinations arose from an unconscious rebellion against her surroundings, and like most schizothymes who develop psychoses, she enjoyed her unreal experiences. Although she was recognized as insane by some practical soldier to whom she first applied, she was so convincing in her arguments as to to able to pass an examination at the hands of a board of learned theologians and her actual accomplishments were so great that her enemies condemned and executed her as a witch. On one side of the English Channel she was enshrined as a saint, on the other side she was regarded as an instrument of evil, all because economic determinism beclouds men's minds. No unprejudiced psychiatrist today would hesitate to record his diagnosis as dementia praecox (schizophrenia) in the case of Joan of Arc. No criminal court of America

*Due acknowledgment is made of the use of material adapted from Clark's Psychologic Studies of Notable Characters and Dr. Simon Stone's report in the American Journal of Psychiatry.

today would pass sentence upon such a case.

You perhaps wonder why witchcraft was accepted so forcibly as to cause the execution of scores, perhaps hundreds, of persons. I am unable to explain except to say that superstition is the most powerful factor in the universe. It is a malady with which every individual is more or less afflicted. No human society or institution is free from it. No philosophy, no religion, known to man, whether it be the teaching of the ancient sages or the newest fad of the hour, has freed itself from traces of superstition.

Belief in witches and witchcraft has been very common, especially a few generations ago. Even the most learned people of former days were thorough victims of this delusion. Preachers and educators wrote on the subject, giving all sorts of ridiculous narratives to which they lent full credence. And today this form of superstition is much more common than would be suspected. The newspapers refer to "hex murders" and "spells" of various kinds among the people of a certain part of Pennsylvania. Witch lore is one of the favorite and common subjects of fireside entertainment in the rural districts of our country. There are many wonderful stories told, in good faith, of bewitched cows and silver bullets, of boats called across the river by wizardry, and of petty vengeance wreaked by unknown hands.

The process of civilization is going on incessantly. We look upon our stage as enlightenment, just as every generation has done before, but I am convinced that remote posterity will regard us in much the same light as we consider barbarians. The great masses of common people compose the foundations of a state and upon them depends its future. As their knowledge improves civilization advances.

It is not necessary that an individual be considered psychotic in order to be classified as a member of the schizoid group of our personality panel. All persons fall into one of the four large groups named above. The schizothyme is one who is endowed with certain personal characteristics that predetermine a tendency on his part to react to an unfavorable environment with a splitting of the personality. In the unconscious mind there are desires that strive for satisfaction but many of these desires, which we term complexes, are not permitted to escape the censor in their true forms because they are taboo by the social order. There are struggles between unconscious complexes in the effort to assert themselves in consciousness. At times they disguise themselves and escape the censor in the form of symbols. Dreams often embody unconscious wish fulfillments, and the analyst relies largely on dreams and free associations in his effort to discover the offending complexes. Auditory and visual hallucinations, delusions, seclusiveness, a tendency to regression and the creation of a dream world into which the individual withdraws, are some of the major manifestations of the schizophrenic state. The schizoid tends to react in this way if his unconscious complexes are so powerful as to obtrude themselves into consciousness.

We pass on to consider the epileptoid group characterized by such noted persons as Alexander the Great, Julius Caesar, Mohammed, Napoleon Bonaparte, Czar Paul of Russia, and Dostoevsky.

Alexander was born in 356 B. C. and lived 33 years. His father and mother were not happily married and the mother bestowed her conjugal love as well as her maternal love upon the son. She asserted that Alexander was the offspring of a god who assumed the form of a serpent and visited her room. The serpent is a prominent phallic symbol. Alexander formed a strong mother fixation. He had a very exacting tutor who may have done much to contribute to the cruelty and avarice which was noted in the conqueror's later life. Narcissism, the love of self, is well exemplified in Alexander's personality. He first considered himself the son of Ammon. He early assumed military leadership and led his hosts to victory throughout the known world. He made no statesman-like effort to

weld his giant empire into a strong unit, but forsaking Europe, he invaded Asia, conquering as he advanced, and it is said that as he reached the shore of the Indian Ocean, he "wept for other worlds to conquer." After carrying his victorious banner to the limits of the known world he was confronted with the problem of further self-exaltation. His ego was not satisfied and he ordered that he be worshipped as a god. I have no record of epileptic seizures in Alexander, but his strong egocentric attributes place him in the epileptoid group.

Napoleon Bonaparte was born on the Island of Corsica at a time when his father was leader of a group of men in rebellion against the ruling power. It is said that his mother rode horseback 20 miles to carry a military dispatch the night before he was born. During his infancy his great delight was in a storm and he would laugh aloud and clap his hands in glee at the flashing of the lightning and rolling of the thunder. We have little knowledge of his early life. He attended school in France but never learned to speak or write French well. His native language was Italian. In school he was unpopular with his fellows. He was petulant, peevish, and defiant, without awe or fear. He read much of history and was proficient in mathematics. He refused to study Latin. He waited for an opportunity and seized it when it came. He was haughty and dictatorial. Although greatly enamored of the beautiful and seductive widow of General de Beauharnais, when he married her the wedding ring bore the inscription "To Destiny", and later when she had failed to bear an heir to inherit his self-created title of emperor he did not hesitate to divorce her, saying, "My destiny and France demand it."

Napoleon had grand mal seizures at times when he groaned and frothed at the mouth. In times of great stress he often had petit mal attacks characterized by confusion and lethargy. It is said that he could lie down on the battlefield and sleep amidst the roar of artillery. I suspect that this is really an example of clouded states due to epilepsy. Often his military judgment would be faulty as a result, as at the battles of Acre, Jena, and Borodina. Napoleon was fond of referring to Austerlitz as the "battle of the three emperors." The Russian Emperor Paul and Archduke Charles of Austria, who participated were both epileptics. The Russian emperor later developed epileptic dementia.

Napoleon's egoism was so great and his desire for self-exaltation so overwhelming that he brooked no opposition and allowed nothing to stand in his way. He taught that he was serving a divine purpose and of this he was thoroughly convinced. He believed himself to be anointed of God. Unlike Alexander, he welded together a great empire, encouraged art, music and literature, and his Code Napoleon still continues as the basis of continental law. Egocentric, vain, haughty, cruel, dictatorial, he sought the first rank in the pages of history, and as you read of his life and actions, in your imagination, you hear the muffled drum's discordant sound, mingled with the widow's wail, making music for marching myriads as the world runs red with blood.

Julius Caesar was one of the military geniuses of the ancient world. He stands out preeminently as the builder of an empire, a law giver, and founder of a long dynasty. It is said that he could dictate to a half dozen emanuenses, read dispatches, and command an army at the same time. Epilepsy was in Roman days variously named, as the sacred disease, the disease of Hercules, and the comitial disorder. Many references are made to it in ancient literature. Julius Caesar is known to have suffered from the "falling sickness." Shakespeare describes one of his convulsive seizures when Cassius is trying to persuade Brutus to join in the conspiracy against Caesar when he said:

"I did mark how he did shake,
Ay, this God did shake."

Following this he goes into a detailed description of a typical grand mal convulsion. It is not necessary to dwell upon these details

or to discuss at length his personal attributes. He assumed many titles, among them Imperator and pontifex maximus. He lived in a day of polytheism and he himself became deified. Many of his accomplishments were beneficial to the Roman people of his day, and the spread of civilization was greatly accelerated by his conquests. His assassination at the hands of Brutus, whom he trusted fully, was perhaps due to jealousy.

Mohammed was born about A. D. 570 at Mecca, now the holy city of Islam. His parents belonged to the Koreish, the tribe that has custody of the shrines. It was customary in those days for members of the tribe to give their sons to Bedouins so that they might be nursed in the air and sunshine of the desert. The infant was so disposed of, but because he had fits, then thought to be due to demons, he was returned to his mother in his third year. He was left an orphan when he was six. He was reared by his grandfather and uncle until he was old enough to earn a meagre livelihood by tending flocks and driving camels. He accompanied the caravans of a widow named Khadija until she asked him to become her husband. After this he conducted her business in the city of Mecca and was noted for honesty, integrity, and good judgment until his fortieth year. It was then that he received a revelation. He had been given to solitude and day dreaming. At that time (600 to 610 A. D.) the Jewish and Christian religions were spreading eastward and southward through the Arabian peninsula and the ancient paganism with fetishes and star worship, temples, and pilgrimages was being openly questioned. This was a fertile field for Mohammed who now appeared among his family and servants as the exponent of a new religion. His wife Khadija and a few relatives accepted his teaching. By the fourth year he had converted forty, mostly slaves. He then came forward publicly by divine command and condemned the ancient superstitions of his people. Although his ability to read and write any language is very doubtful he had learned a smattering of Judaism and Christianity and he announced that next to himself Moses and Jesus were the greatest prophets of all times. His creed, "There is one God and Mohammed is his prophet" is now accepted by half the people of the world. He received messages from Allah and employed amanuenses to record his teachings. In the early days he encountered hardships, had to flee from his enemies but his flight, with some of the faithful from Mecca to Medina was a turning point and this Hegira marks the beginning of the Mohammedan calendar. Like most persons activated by heavenly voices, Mohammed took to the sword and soon his followers were sweeping westward until Constantinople fell and St. Sophia's cathedral became a Mohammedan mosque. Mohammed died in the arms of Ayesha, the favorite of his nine wives.

I do not call Mohammed an imposter. Imposters can not rally great armies of followers whose allegiance remains so firm as to lead them into mortal combat. In his own mind Mohammed heard the voice of Allah, as in recent times Joseph Smith received the golden plates of Mormonism and Mary Baker Eddy was so enthused as to be able to convince her followers that she was immortal. These psychotic people were so endowed as to be able to turn the tide of human destiny and change the course of history.

Let us depart from conquest and religion and seek a glimpse in the realm of literature. Dostoevsky, the son of a Russion physician, was very devoted to his mother, who died when he was 13 years old. His strong mother fixation is shown by his inability to speak for a period after her death. As a youth he was seclusive and thoughtful. He enjoyed gruesome stories of peasant folklore. As a student in an engineering school he was unable to adjust himself. He loved literature and especially preferred the writings of Pushkin, who was known to be an epileptic. He wrote his first novel in 1844 and thereafter devoted his efforts to writing. His epileptic seizures were variable, sometimes on an average of

once a month and sometimes more often. His disposition was typical of the epileptic personality. He was tactiturn, quarrelsome, selfish and insulting. During periods of epileptic states he went to extremes and later made due apologies. He rationalized his inexcusable conduct by blaming his heredity. In his writings he depicts epileptic characters, describing their moods and reactions. Several types of epileptics are seen in his novels. It is hardly worth while to discuss them in our limited time. The many features previously mentioned as characteristic of the epileptic individual may be summed up in his life and writings as mental hardship in an otherwise intelligent person, a tendency to egoism and narrowing of the mental horizon, defective judgment, a gradual slowing of mental acumen, and a tendency to react to unfavorable situations by convulsive seizures and psychotic episodes. The epileptoid may not present these features in a marked degree but he will possess a tendency to develop them under certain conditions.

We have discussed the schizoid and the epileptoid. Let us now consider the paranoid. Some writers have described the paranoid as a "crusty old man" who is constantly suspicious, never congenial and ready to place all the blame for a mishap on others. I do not fully concur in this view, unless we are considering a person who has developed some degree of psychosis. In this setting, I shall mention two great historical characters, one a theologian and the other a soldier with strong theological tendencies.

Martin Luther was the son of lowly German parents. His father made every effort to educate his son as a lawyer but after taking his A. M. degree at the age of 22 (in 1505) Martin's conscience was stricken and he felt himself the object of divine wrath. He sought refuge in a cloister. He was speeded in his effort by a friend's death and he became an Augustinian monk. This flight from the world was not sufficient to satisfy his conflicts. He punished himself to the point of desperation for a period of time. His superiors were concerned and admonished him. He adjusted himself to continued study and when ordained to the priesthood he was also made a professor at Wittenberg. His lectures drew faculty members as well as students. He became a theologian and an author of books. Luther arrived upon the stage of history at a time when the world was ready for a great change. Taxation, religious holidays, numerous obligations of the poor peasants and a decided dissatisfaction on the part of the princes of the various states, all combined to create an unrest and prepared a fecund soil for the seeds of discontent. Martin Luther was prompted in his well planned course by what he considered divine guidance, but on the other hand he was often harassed by the devil. His visual hallucinations were very vivid and concrete. Satan made his appearance in Luther's room, much to the disgust and displeasure of the reformer. On one occasion Luther threw his ink well at the devil and we are told that the stain still remains upon the monastery wall. It is said that he often conversed with the devil. Timid at first Luther became more and more positive as the fight advanced against papal authority. In the beginning he had not intended to lead a rebellion. He later renounced his vows and entered into marriage with a nun. He believed that the end of the world was near. As a theologian he was frequently inconsistent and in moral discipline he was surpassed by other leaders of his time. The paranoid personality is well depicted in Luther. Retaining his intellectual faculties to the end he, nevertheless, entertained delusions of persecution by the devil and at times he seemed to experience auditory and visual hallucinations. The paranoid type of psychosis is sometimes referred to as monomania and these persons show comparatively little impairment of intellectual faculties aside from the system of delusions.

Coming down to more modern times, I desire to mention two other religious movements founded by individuals who lived contemporaneously. In 1823, Joseph Smith, Jr.,

lived at Palmyra, New York. He was known in the neighborhood as a "money digger" and seeker for lost and stolen articles.

He was much given to visions and in September, 1823, an angel of the Lord told him that a stone was hidden on a certain hill under which was a book of golden plates. Smith went to the hill and found two stones, Urim and Thummim. He was again visited by the angel of the Lord who commanded him to return four years hence. In 1827 he secured the assistance of one Martin Harris, who also believed firmly in visions, and who had been by turns a Quaker, a Universalist, a Baptist, and a Presbyterian. The two retired to soliture to translate these plates and after one hundred and sixteen pages had been written by Harris at the dictation of Smith the manuscript was secured by Mrs. Harris and was never recovered. However, God commanded Smith to go on with the work and from the plates of Nephi with the assistance of Smith's wife, the translation was continued. The result was the book of Mormon, of which the manuscript was completed in 1830. What became of the plates is not recorded.

The church was organized and in 1830 a revelation bade Joseph Smith and Oliver Cowdery to go unto the Laminites as he called the Indians, as missionaries of the new religion. They started from Buffalo and went on to Kirtland, Ohio, where they baptized seventeen converts, including a minister by the name fo Rigdon. Following this a number of ministers of other sects were converted to the Church of Christ of Latter Day Saints. Men and women flocked to the meetings and were carried away by the excitement of the moment. It is recorded that these people picked up stones with messages written by the hand of God that faded away as soon as they were read. They saw lights in the air and had visions by night. They chased balls of fire through the fields and "at the evening meetings fell in faints or crawled about on hands and knees in a dazed condition." Thus began the movement which was destined to become the Mormon Church of today.

Although this account of the beginning of Mormonism is descriptive of what is perhaps one of the most typical epidemics of mental disorder of modern times, I am able to cite to you as a matter of record a similar epidemic of mental disease which made its appearance contemporaneously and which is recorded in psychiatric literature as "Millerism." Dr. Simon Stone of the New Hampshire State Hospital at Concord, New Hampshire, has made a comparative study of mass psychology on the basis of written reports by Dr. Andrew McFarland, who was superintendent of the State Hospital in 1852, ten years after its opening in October, 1842.

"William Miller," the apostle of Second Adventism, is a very interesting figure in the religious history of this country. He was an honest man, firmly convinced of the truth of his beliefs and at first not at all interested in prostelyting. His religious developments bears a great resemblance to that of Tolstoy, who also in his search for salvation firmly found in the literal interpretation of the New Testament, the solution for all the ills of mankind. He was born in 1782, the son of a farmer at Low Hampton, Vermont. He did not receive a regular education, but read the works of radical writers of his period such as Voltaire, Paine, and Hume. He was considered an atheist and laughed at the religious beliefs of his family. He came to regard mankind as universally corrupt. The lonesome life of a New England farm predisposed him to self analysis and self absorption. It is a matter of psychiatric record that paranoid ideas are more frequently found in the rural section of New England than in the cities of the same area. After much deliberation he gave up agnosticism and turned to the Bible accepting everything literally. He became enmeshed in the prophecies of Ezekiel and Daniel concerning the millenium and devoted himself in figuring out the exact date of the coming of the millenium. After eighteen years of work on charts and figures he set the year 1843 as the time for the second advent of Christ. He heard the voice of the Lord

saying to him, "Go tell the world of their danger!"

A case of religious paranoia was gradually developing. In his writings he describes his auditory hallucinations and his conversations with the Lord. His fame spread over the countryside and his air of conviction and firm belief in the truth of his prophecies left no doubt in the minds of his listeners. In 1832 he wrote "I am satisfied that the end of the world is at hand; the evidence flows in from every quarter; the earth is reeling to and fro like a drunkard."

Many social, political, and religious reformers make their appearance in every generation intent on changing the social order to suit their own ideas. At the time of Miller, New England was passing through a period of religious excitement. From England, a wave of revivalism spread to the eastern part of the United States. Joseph Smith was agitating the troubled waters with his Latter Day Saints' notions. Increased religious activities was also noted in the Shakers and other religious sects in the same section of the country. Even natural phenomena seem to confirm these ideas and an avalanche of large meteors made its appearance in 1833, and attracted wide attention and consternation as a sign of the end of the world. A comet of unusual magnitude and brilliance, visible even in the daytime, appeared in the skies in 1843, the year set by Miller for the millenium. Seeing angels and hearing the flapping of their wings were a common occurrence. Many climbed hilltops or trees to be ready to fly when the call came. Numerous accidents were caused by falls from high places. Mild and serious upsets were frequent in the emotionally unstable. Only a small number were confined to the newly opened insane asylums. Only the cases which the family were no longer able to care for at home were brought to the asylums. The first patient admitted to the New Hampshire State Hospital on October 28, 1842, was a white man, age 35, who had been a farmer of comfortable means. He had become converted to the adventist movement and disposed of all of his property and said that he was "Jesus Christ, Himself." The records of Dr. Chandler state that he was noisy and violent. During the first year of the hospital's life more than one-fourth of all admissions were attributed by Dr. Chandler to the new movement organized by William Miller and for several years afterwards patients were admitted who undoubtedly had been thrown into a psychosis by over contemplation of the teachings of Miller. I have in my library case, reports of 24 such patients. At that time the hospital only accommodated 75. Many of the converts of Miller were so impressed with his teachings that they disposed of their entire possessions and devoted all their time to prayer and preparation for the "end of the world."

On the side of a building in Clarksburg, West Virginia, there is a metal plaque marking the site of the birthplace of Thomas Jonathan Jackson. Jackson was left an orphan early and he lived with his uncle at Jackson's Mill, where a Four-H camp is now located. As a young man he was highly regarded and he became sheriff of the county at the age of 18. He had little educational advantages and was ambitious for greater opportunities. He applied to Jonathan Bennett, who was in position to help him, with the request that Mr. Bennett secure for him an appointment to West Point. Mr. Bennett pointed out his meagre education and advised that he give up the idea, but Jackson was very insistent and finally Bennett agreed.

The appointment was secured. The first year Jackson was near the foot of the class in academic work but when he graduated in 1846 he was 18 in a class of 70, among whom were McClellan, Reno, Gibbon, Pickett, Maury, A. P. Hill, and Wilcox. He went as second lieutenant to the Mexican war, won honors for gallantry, and returned with the rank of Major.

In 1851 he resigned from the army and became professor of natural and experimental philosophy and artillery tactics at V. M. I.

The cadets soon noted his sternness of discipline and gave him the nickname of "Fool Tom Jackson." To illustrate his strictness, I will recount two incidents. On one occasion during the midsummer in that warm Virginia climate the other instructors had removed their coats for comfort. Jackson continued to wear the extremely hot regulation uniform. When one of them asked why he did not take off his coat he replied that he had orders to wear it and the orders had not been countermanded. On another occasion he walked back and forth in a pouring rain in front of the entrance to the commandant's office, with his watch in his hand, waiting for the exact minute of his appointment.

When the Civil War began he was commissioned colonel in the Virginia service. In a few weeks his regiment had been made the nucleus for a brigade which was one of the first to get in position at the first battle of Bull Run. During the battle, troops from South Carolina under General Bee were beginning to fall back when Bee rode along the lines waving his sword and trying to rally his men. He is said to have called to them, "Look at Jackson—he is standing like a stone wall." Thus he received his nickname and "Stonewall" Jackson has gone down in history. His ability as a military tactician has never been excelled. His Shenandoah Valley campaign is studied in military schools throughout the world. He never held a council of war and he kept his plans secret. His infantry was nicknamed "foot cavalry" because of the rapidity of his movements.

On one occasion when he was outnumbered by the federal forces he ordered his bands to move from one place to another and to play. His enemies were deceived as to his numbers and did not attack, giving time for reinforcements to arrive. On another occasion he was out on a scouting trip with his staff and crossed a bridge leaving his army on the other side of the river. In the meantime a group of federals arrived and erected a cannon to command the bridge. As they approached the bridge a staff officer called the general's attention to the cannon. He ordered his staff to follow him and rode up boldly, demanding of the officer in charge why his order had been disobeyed and said, "Dismount that cannon at once and remove it to the other side of the bridge." When the cannon was dismounted Jackson and his staff dashed across the bridge to safety. Jackson was very religious and never entered a battle without prayer and after every victory he gave public thanks to God. His men were always speculating as to what the general's plans were. A veteran of the "Stonewall Brigade" once told me of an effort he made to learn something of Jackson's colored servant. The slave called his master "Old Blue Light." He said, "I never know what Old Blue Light's gwine to do. If he tells me to get two days' ration ahead, I always know we is gwine to change quarters. If he prays in his tent till midnight I says they's trouble ahead, but if he prays till daylight, I know they's gwine to be hell to pay."

Stonewall Jackson, although he was eccentric to the point of being called by his students "fool Tom Jacksoh," never manifested any psychotic symptoms. His paranoid personality is demonstrated by his self-reliance, his refusal to confide in his fellow officers and to seek their counsel. His strong religious nature is quite in harmony with this view.

The cycloid group is well typified by Edgar Allen Poe and Abraham Lincoln. Poe's father was an able actor and his mother an actress of even greater talent. Poe was left an orphan early and he was adopted by a Mr. Allen in Richmond, Va. He made a poor adjustment in school and college although he had excellent advantages. He was not a dissipated man, but he lived an irresponsible and irregular life. Drink was poison to his entire being. Mr. Allen took him into his counting room, but Poe could not adjust at that level. He joined the regular army and served two years, being honorably discharged in 1829. Mr. Allen secured an appointment to West Point for him, but he was dismissed

by order of court martial at the end of six months.

He started writing early in life and attempted to support himself by writing. He had no lesson to teach. The value of his poetry is in its lyrical beauty. His prose writings are masterfully executed and he shows ability as a critic. He was accepted as a good lecturer. For a while he edited a literary magazine in Richmond and greatly increased its circulation, but his dipsomanic episodes interfered with his continued success. "He had many opportunities but his temperament made it impossible for him to establish comfortable and permanent working relations." His wife's long illness tortured him greatly and he yielded more and more to stimulants. He wrote "The Raven" in 1845 while living in a cottage at Fordham, N. Y. His poverty was appalling. He lacked full and sufficient bed clothing for the young wife whom he loved so deeply and who was lying ill. He was her nurse and his overcoat was used as a blanket. She died in January, 1847, and Poe immediately became ill. After a few months with friends he was partially recovered and he completed an unfinished novel and delivered a few lectures. He returned to Richmond in June, 1849, and seemed somewhat improved in the pleasant home surroundings. In September he started to return to New York and the history of his last few days will never be known. He died in a Baltimore hospital four days after being found unconscious in a saloon.

I am convinced that Edgar Allen Poe's dipsomanic episodes accompanied depressions and were compensatory reactions. He never developed a psychosis and although his writings always deal with fantastical and abnormal features of life—almost to the point of schizophrenia—his periods of activity and accomplishment and the deep depression into which he fell after the death of his beloved wife lead me to conclude that he was a cyclothyme.

Abraham Lincoln suffered from long periods of deep depression and throughout his life he was of a highly depressive nature. Depression usually comes on slowly unless it follows illness or mental shock. The victim becomes slow in thought and action. He can not make decision. He has little to say and spontaneous conversation stops. Memory becomes impaired. The world is in a cloud and the individual is engrossed in a wilderness of doubts and fears. Work ceases because what once was a congenial task now appears to be a mountainous impossibility. He may lapse into a benign stupor and cease to sleep and accept food. Suicide may be uppermost in his mind and often is accomplished.

Such a picture Lincoln presented after the death of Anne Rutledge in August, 1835. He had become engaged to her in the spring. He frequented her grave, contemplated suicide, and bemoaned the falling of the rain upon her lonely grave. He recovered from this depression only after months and perhaps never entirely escaped from its effect.

He had had a previous experience when his mother died. When the family moved from Kentucky to Indiana in 1817, Lincoln helped his father build a cabin for the winter. It had only three sides and no chimney. The fire was built half within and half without the cabin. It was in this cabin that Nancy Hanks became ill and one day she called the eight year old boy to her side and bade him be good to his sister. A few hours later Abe's father built a rude coffin and she was buried on a lonely hillside. Months later young Abe who had suffered mental agony following her death, took an itinerant minister to the grave and persuaded him to conduct a service for her.

Lincoln did not love his father, although he supported him for many years until his death in 1851. He did not visit his father when he learned of his illness. But he responded well to the stepmother who came into the home, probably because she encour-

aged and supported him in his desire for education beyond the possibilities in that frontier community. His father discouraged this idea.

Lincoln's disposition was quiet, reserved, frank, generous, tender and devoted. He was noted for honesty and integrity. He gradually became prominent in the legal profession, after many trying hardships.

He became engaged to Mary Todd in 1840 but he had never fully recovered from the loss of Anne Rutledge. The time of the wedding was set for January 1, 1841, at the home of the bride. Everything was in readiness, the guests had gathered, and the bride awaited anxiously. Hours passed and Lincoln failed to appear. When he was located by his friends after many hours of searching he was depressed to the point of suicide and all objects that might be used for self destruction were removed from him. At the time he was a member of the state legislature and had been diligently at his duties. It became necessary that he go away for a rest. After several months spent in Kentucky he was only partially recovered but he was trying to the best of his ability to adapt himself to reality. He now felt a sense of obligation not performed and he later sought a reconciliation and Miss Todd became his wife. But this was only after much struggle in Lincoln's own mind. He never succeeded in adapting himself to a marital state and the relationship between himself and his wife was not satisfactory to either. She pushed him forward and perhaps he would never have been president except for her ambition to live in the White House. Much of her nagging was probably due to Lincoln's inability to adapt himself at the marital level. He had a strong mother fixation. His personal life was gloomy. His famous wit and stories were compensatory reactions.

The cycloid group comprises such persons as those just mentioned, together with the opposite group who find themselves happy and euphoric in certain intervals with a tendency to fluctuate above and below a normal line. This tendency of being happy and very active at one time, and to become sad and depressed at another, is the most characteristic feature of the cycloid type of personality.

I have tried to illustrate to you the four major groups as we think of them in the personality panel. I have used noted historical characters familiar to each of you. In some instances, the characteristics presented have been somewhat extreme, even to symptoms of psychosis, but you will understand that a frank psychosis is not necessary in order to place an individual in a definite personality group. One individual may have some of the characteristics of more than one of the four groups, but we are guided by the major manifestations. Every human being endowed with a mind falls into one of these groups, whether it be a scientist working in his laboratory for the welfare of mankind; a nurse working with tender fingers about the sick bed of her patient; a beautiful singer entrancing her audience with her incomparable song; or the dusky boy that picks the whitened cotton with his mind enveloped in a cloud of ignorance and the curse of centuries upon his brow.

What an individual's personality is like depends upon many factors. The constitution, as understood in medicine, is all that integration (both mind and body) coming through heredity from a limitless line of progenitors, together with personal experiences. He is influenced by cosmic elements, such as climate and barometric pressure, the amount of certain chemicals in the food he eats and the water he drinks. Sub-human and human environment play great parts. The constitution plus fixations make up an integration that cannot come to a complete rest. Imbalances are constantly present and occurring. Something is always needed. There is always a tendency to regress or compensate—a "swinging of the balance." The person who is always able to compensate, regardless of his classification in the personality panel, is the healthy man or woman.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

Tuberculin Testing with P. P. D.: During the two-year period following June, 1934, the National Tuberculosis Association offered P. P. D. for sale at a reduced price for group testing with the understanding that reports would be returned for statistical analysis. By this means, data were obtained for 85,709 first and second-strength tests among 56,688 individuals in thirty states and the District of Columbia and the group tests were summarized with the result that the individual differences of single groups were minimized. The percentage of positive reactors among the 56,688 persons tested with first and second-strength P. P. D. was found to be 36.4 However, a more representative index of tuberculous infection in the United States was approached by adjusting the infection rates for age, color, nativity and parentage according to the distribution of the population in the United States at the time of the last census in 1930. In this way, added importance was given to the high infection rates found among the adults and persons of foreign extraction in the groups tested, and the percentage of positive reactors was increased to 47.0 per cent.

Of the 56,688 persons included in this survey, 3,071 were tested with second-strength tuberculin only. The remaining 53,617 persons were tested with first-strength tuberculin and only 29,021, or 75 per cent of the 38,829 negative reactors, were retested with second-strength tuberculin. Positive reactions resulted from 27.6 per cent of the first-strength tests and 16.9 per cent of the second-strength tests that followed negative reactions to first-strength tuberculin. However, there were 9,808 negative reactors to first-strength tuberculin who failed to receive second injections of second-strength tuberculin. Assuming that these would have shown positive reactions to second-strength tuberculin in the same proportion as those who did receive second-strength tests, there are at least 1,500 undiscovered positive reactors because of the failure to complete tests with second-strength tuberculin.

Type of group: More than 18 per cent of those tested with P. P. D. were high-school students, 17 per cent were college students; 12 per cent were elementary school pupils; and 13 per cent came from clinics. Another 13 per cent were Indians, and less than one per cent were teachers, nurses, and doctors. The remaining 27 per cent came from miscellaneous or unclassified groups. Excluding the Indians reported, the highest infection rate was found among the 7,106 persons tested in clinic groups, with 53.2 per cent showing positive reactions to either first or second-strength P. P. D. The lowest percentage of positive reactors, 18.5, was found among the 6,622 elementary school children in the groups tested.

Geographic Areas: With the exception of the resort area, the states along the Eastern coast showed the greatest evidence of tuberculous infection, whereas the lowest percentage of positive reactors was found among the groups in the central states. The number of persons tested in each geographical area was not large enough to establish conclusive evidence concerning the prevalence of tuberculous infection in each section, but it is interesting to note that the results of this study are in agreement with those found among students tested in colleges in various sections of the United States.

Urban and Rural: Tuberculin tests among 32,477 individuals were reported either typically urban or typically rural. Of the 22,688 persons classified as urban residents, that is, living in places with a population of over 2,500, 33.6 per cent were found to be positive reactors to either first or second-strength P. P. D. There were 9,789 individuals included in the study of rural groups, of which 21.4 per cent evidenced tuberculous infection.

Age: The reports included in this study indicated that there were fewer positive reactors proportionately among the children six years of age than there were at any other year of life. Following the sixth year of life, the percentage of positive reactors increased with age at an average rate of over one per cent for every year of life up to the age of 20. Adults 20 years of age and over included in the groups tested evidenced 34 per cent more tuberculous infection than the boys and girls reported under 20 years of age.

Sex: Approximately the same number of males and females were reported to have had tuberculin tests with P. P. D. The males showed a slightly higher percentage of positive reactors than did the females, the adjusted rate for males being 48.3 and that for females 45.9 per cent. There was a larger proportion of male than female positive reactors to P. P. D. at almost every age group.

Color and Race: Negroes and Indians seemed to be more sensitive to P. P. D. than the white persons. Of the white positive reactors in the groups tested with second-strength tuberculin following negative reactions to tests with first-strength tuberculin, 68 per cent were detected with first-strength tuberculin, compared with 75 per cent for the Negroes and 89 per cent for the Indians. White persons comprised 74 per cent of the entire number and the percentage of positive reactors among them was 46.5. The Negroes showed only one per cent more positive reactions than did the whites, the infection rate for the Negroes being 47.8 per cent. The non-adjusted rate for whites was 15 per cent lower than that found for Negroes, but it was thought that the adjusted rates represented more closely the prevalence of infection in the general population. The percentage of positive reactors found among the 7,159 Indians tuberculin tested was 72.4, an infection rate over 25 per cent higher than the adjusted rate found for the combined groups of all ages, colors and races included in the study.

A Summary of the Results of Group Tuberculin-Testing with P. P. D. (Purified Protein Derivative) in the United States, Jessamine S. Whitney and Isabel McCaffrey, Am. Rev. of Tuberc., May, 1937.

TWENTY-FIVE YEARS AGO

(Taken from the July, 1912 Issue of the W. Va. Medical Journal)

PROSPERITY

We are glad to report that more members have paid up to date than ever before in the history of the Association. We have reached the eight hundred mark with nearly two hundred of the old members as yet unpaid. The great majority of these are the old reliable, many of whom have not paid because the local secretary has not asked them to do so. Others are the tardy ones who will, at the final day of judgment, be found among the trailers, some reaching the Golden Gate just after it has been closed against all comers. In Ohio County Society are a number of the first kind, and a few of the others, and some so busy making money that they forget to spend it.

* * * * *

Collect all dues, come to Webster Springs, bring along all the good papers you can get hold of, whether on the program or not, and you will have the time of your life. (The Webster Springs Meeting was held July 10-11-12, 1912).

* * * * *

DO YOU READ MEDICAL JOURNALS

This may, on first thought, seem an impertinent question. There are a great many physicians who do not read their current medical literature and who are, incidentally losers by not doing so. . . . The doctor who is disposed to look upon medical articles from a high-brow standpoint and call them punk should try writing more himself and see whether his endeavors are more illuminating and edifying. The effusions of the medical journal writers, even those of us exalted (?) editors, are not always marked by literary grace and appealing style, yet it is ever the aim to get down to business and offer thoughts that will in some manner prove helpful to the plodding physician. The doctor who permits his journals to sleep with their overcoats on is letting golden opportunities go by.

* * * * *

On June 6th at Atlantic City during the meeting of the American Medical Association and following a symposium on anesthesia, the National Society of Anesthetists was organized, with the following officers for the year 1912-13: President, James Taylor Gwathmey, of New York; vice presidents, Charles K. Teter, of Cleveland; F. H. McMeechen, of Cincinnati; Yandel Henderson of New Haven; secretary, William C. Woolsey, 88 Lafayette Avenue, Brooklyn; treasurer, Harold A. Sanders, of Brooklyn.

All qualified in the estimation of the executive committee, shall be considered as charter members if presented within a period of sixty days and accompanied by the levied due of three dollars.

The National Society of Anesthetists in this notice calls all those who are actively interested in this work to join its ranks and assist in developing the subject of anesthesia to greater perfection and more uniform safety.

* * * * *

Original articles in this issue of the JOURNAL were contributed by Dr. G. W. Swimley, Bunker Hill, W. Va.; Will A. Quimby, M. D., Wheeling; J. T. Thornton, M. D., Wheeling; Thos. R. Evans, M. D., Huntington; C. A. Wingerter, M. D., Wheeling; M. A. Bowers, M. D., Hansford, W. Va.

PRESIDENT'S PAGE

In spite of press comments, we feel that the House of Delegates of the American Medical Association acted wisely in turning down the New York resolution leading toward a change in the nature of the practice of medicine and adopting, in its place, a resolution to cooperate with the federal government in working out plans for the care of the indigent sick *on direct request* of the government. We interpret the action of the A. M. A. House of Delegates to mean that the medical profession still has an abiding faith in our American system of practice and prefers that system to the socialistic and bureaucratic infested schemes of continental Europe.

We commend the action of our parent organization in offering to assist the federal government in working out plans for the care of the indigent sick, providing such assistance is requested by the government. That statement of policy applied to the American Medical Association and the federal government should also apply to the various state medical societies and the various state governments. The application of that same policy by the West Virginia State Medical Association more than three years ago has brought about a very happy understanding between our Association representatives and the various branches of our state government.

Interest of the doctors in organized medicine is rapidly increasing. At the Atlantic City convention, the largest in A. M. A. history, more than 9,000 physicians were registered. At our own Clarksburg meeting in May we also enjoyed our largest convention with approximately 500 members on the registration book. Surely this added interest in organized medicine will stand us in good stead if we are to battle the socialistic tendencies of this modern era.

President.

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MEDICAL AND HOSPITAL SERVICE

The American Medical Association's Reference Committee on Medical Education reported to the House of Delegates at the Atlantic City meeting that it was vigorously opposed to the inclusion of any and all types of medical service in group hospitalization contracts. This report of the Committee was unanimously adopted by the A. M. A. legislative body.

There are several group hospitalization plans now in existence in West Virginia. They differ from the list hospital contracts in that the former, at least in theory, furnish only hospital service and pay a per diem rate for all subscribers requiring hospitalization. We understand that the group hospital plans now operating in this state are fairly successful, that they are largely controlled by the medical profession and that they serve a useful purpose in the communities in which they operate.

In spite of the popularity and success of the plans above-mentioned, complaints have come in from time to time that they are encroaching in a minor degree upon the private practice of medicine. It has been pointed out that these plans provide laboratory and x-ray service which rightfully belong to medical practice. Anesthesia is also provided in these group hospital contracts, thereby tending to exclude those doctors who limit their practice to this specialty. We are also informed that there is a tendency upon the part of subscribers, particularly in emergencies, to go direct to the hospital of their choice and to utilize the services of internes and house physicians rather than the services of their family doctor.

It has been argued that the minor infringement on the private practice of medicine is more than offset by the good that is accomplished by these hospital insurance plans. That is hardly a logical argument. The only question involved is whether such infringements are right or wrong. If they are right, that's all there is to it. If they are wrong, they should not be tolerated. Our point in this discussion is that the American Medical Association believes such infringements to be wrong.

For the benefit of those interested in group hospital plans, we desire to quote the following from the report of the Reference Committee on Medical Education:

"It is recommended . . . that the contract benefit provided by group hospitalization insurance should be limited to the room, bed, board and nursing facilities ordinarily provided by hospitals, and routine medicines . . . In regard to certain benefits offered by many hospital insurance plans, combining professional and technical services, the committee is in complete sympathy with those who would make every possible provision to prevent inclusion of any and all types of services involving medical care."

It might be pointed out that West Virginia was represented on the Reference Committee on Medical Education by Dr. Walter E. Vest of Huntington.

ASSIGNING REHABILITATION CASES

Following the report of the Association's Public Assistance Advisory Committee at Clarksburg, much work has been accomplished by the committee toward a new system of assigning adult physical rehabilita-

tion cases. The committee's report, published in the Convention Transactions in this issue of the JOURNAL, points out the inadequacy of the present assignment method of sending the cases direct to the hospital chiefs of staff for reassignment to the surgical staff members.

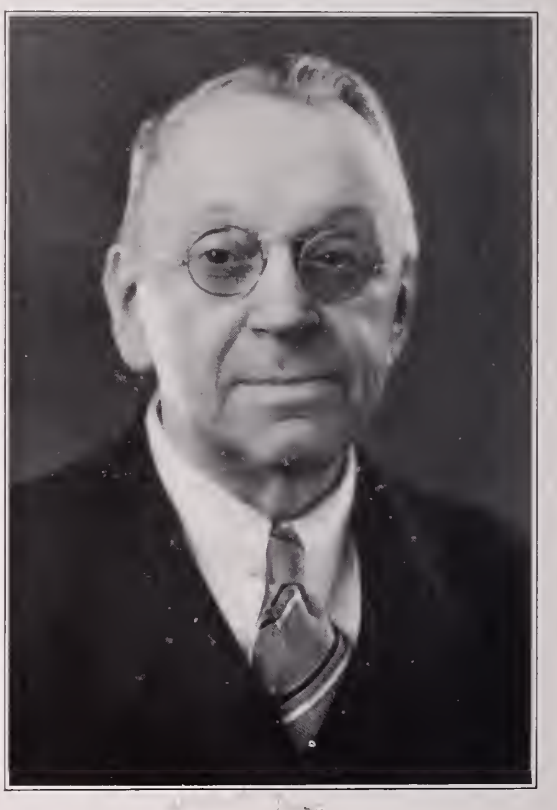
The committee has already had one meeting with representatives of the Association's Surgical Section at which time it was agreed to prepare a complete list of West Virginia surgeons competent to do rehabilitation surgery and to submit this list to the rehabilitation department for rotation assignments. The Advisory Committee and the Surgical Section representatives recognized the many difficulties to be encountered in the preparation of such a list, but all felt that this responsibility should be accepted.

Within the next few days, questionnaires will go out to every Association member relative to rehabilitation surgery. All members who wish to qualify for this work will be requested to fill out the questionnaire and return it to the Association headquarters. For the most part, these questionnaires will call for the training and surgical experience of those who wish to participate in the rehabilitation program. Minimum qualifying standards will be fixed by the committee and the Surgical Section representatives and those members who meet the minimum standards will be placed on the list of qualified surgeons. It is understood that additional members may qualify from time to time in the future as their training and experience broadens to meet the required minimum standards.

A great deal of work must be accomplished before the list of qualified surgeons can be completed. However the committee is starting at once to accomplish its objective and it is hoped that the task can be completed and the new assignment method in operation by August first. The early operation of the new plan will depend largely upon the promptness of our surgical members in filling out and returning the questionnaires.

FIFTY YEARS IN PRACTICE

A word of congratulation to Dr. V. T. Churchman, Sr., of Charleston, past president of the West Virginia State Medical Association, who on June 23, 1937, rounded



DR. V. T. CHURCHMAN, SR.

out his fiftieth year of active practice. He has practiced in Charleston for the past 45 years, coming to West Virginia a few years after graduating from Jefferson Medical College.

Dr. Churchman was born in Greenville, Virginia, in 1867, the son of Dr. Vincent Tapp and Margaret (Graham) Churchman. He received his academic education at Augusta Military Academy before matriculating at Jefferson. In Charleston, he limits his practice to eye, ear, nose and throat work and is in his office daily. Fine horses are Dr. Churchman's hobby and he has owned considerable show stock. He also officiated at many horse shows throughout the United States.

Fifty years is a long time in the practice of medicine. To Dr. Churchman we wish many more years in his chosen profession and in the pursuit of his interesting hobby.

PHYSICIANS' POSTGRADUATE CONFERENCES

The State Health Department in cooperation with the West Virginia Medical Association will again offer to all physicians in the State of West Virginia postgraduate lectures, demonstrations, etc., during the months of July and August, 1937. These lectures and demonstrations are to cover three subjects, namely: Obstetrics, pediatrics and venereal diseases. The lectures on obstetrics are to be given by Dr. E. D. Plass, Professor of Obstetrics and Gynecology, University of Iowa; Dr. M. E. Davis, Associate Professor of Gynecology and Obstetrics, University of Chicago; and Dr. W. J. Dieckmann, Associate Professor of Gynecology and Obstetrics, University of Chicago.

The physicians who are to conduct the conferences in pediatrics are Dr. Edwards A. Park, Pediatrician in Chief, Johns Hopkins Hospital, Baltimore, Md.; Dr. Lee Palmer, Associate Professor of Pediatrics, University of Louisville, Louisville, Kentucky; and Dr. Geo. M. Lyons, Pediatrician, Huntington, W. Va.

Only one of the physicians who are to conduct the conferences in venereal diseases has been selected, namely, Dr. Paul Padgett, Associate Professor of Venereal Diseases, Johns Hopkins University. Two other physicians will be selected in the near future to assist in this work.

There have been fifteen locations in the state selected where these conferences are to be held. They will begin the week of July 12, and continue for seven weeks, with one day of each week devoted to the physicians in each of the locations. The locations and days on which the meetings are to be held are as follows:

Monday—Clarksburg, Parkersburg, Beckley.

Tuesday—Fairmont, Charleston, Hinton.

Wednesday—Morgantown, Logan, Bluefield.

Thursday—Keyser, Williamson, Ronceverte.

Friday—Martinsburg, Elkins, Huntington.

The local medical societies are cooperating to the extent of furnishing a room for the meetings and making the necessary local arrangements. A $5 registration fee will be charged to all physicians who attend these conferences, but no fee other than the registration fees will be charged. The money collected from the registration fees will be used by the local medical societies to defray local expenses incurred in connection with the conferences. Also part of these funds will be used by the State Health Department for mimeographing lectures, programs, letters to physicians and postage. The expenses and salaries of the lecturers will be paid from another source as the fees collected for registration would in no way take care of the expenses and salaries of the lecturers.

The program which has been arranged for these conferences is as follows:

Obstetrics

I. Care of Mothers During Pregnancy.
   1. Routine care of an expectant mother.
   2. Toxemias of early pregnancy.

II. Complications of Late Pregnancy and the Puerperium.
   1. Toxemias of late pregnancy.
   2. Prophylaxis and treatment of puerperal infection.

III. Adaptation of Modern Obstetrical Methods to Country Practice.
   1. Conduct of normal labor in the home.
   2. Abnormal labor (uterine inertia, hemorrhage, etc.)

Pediatrics

I. Feeding Problems.
   1. a. Routine methods for well children.
      b. Newborn and premature child.
   2. a. Diarrheas and treatment.
      b. General gastrointestinal upsets.

II. Prevention of Diseases in Children.
   1. a. Infectious diseases.
      b. Immunization and methods.
      c. Control measures.
      d. The physician's responsibility.

Venereal Diseases

I. Diagnosis, Management and Treatment of Early Cases.
   a. Treatment of pregnant mothers.
   b. Treatment of congenital syphilis.

II. Diagnosis, Management and Treatment of Old Cases.
   a. Treatment of cardiovascular syphilis.
   b. Treatment of latent syphilis.
   c. Treatment of neurosyphilis.

Physicians with exceptional ability have been selected and obtained to give these post-graduate conferences, and it will be an opportunity for every physician in the State to refresh himself on many of the interesting points which will be covered during these conferences. It is felt by the leaders of the West Virginia State Medical Association and State Health Department that with these outstanding men, the conferences will be very attractive and interesting to every physician who is still interested in the treatment and care of the ill. Every physician in the State is eligible to attend these conferences and will be notified at an early date by personal letter as to when and where the conferences are to be held.

ON LOSING A FRIEND

It is very difficult to find words to express a feeling of deep sorrow, especially the sorrow that comes from the loss of a loving and devoted friend. The death of Mrs. C. A. Ray at our Clarksburg meeting finds us groping for adequate phraseology, for words that are forever missing. She was perhaps closer to our Association membership than any other doctor's wife. Her sweetness, her kindness and her gentle disposition kept her always in our thoughts and in our hearts.

To Dr. Ray, our beloved past president, we express the heartfelt sympathy of every Association member.

GOLDEN CLINIC DAY

A record attendance of West Virginia doctors is expected for the Third Annual Clinic Day of the Golden Clinic which will be held under the auspices of the Davis Memorial Hospital, Elkins, on July 14, 1937. A number of distinguished out-of-state speakers will make up the program.

The meeting will be opened at 8:30 o'clock on the morning of July 14 with case presentations by members of the Clinic staff and guest speakers. At noon there will be a luncheon for alumni of New York University College of Medicine and visiting physicians interested in diseases of the cardiovascular system.

Luncheon speakers will be Dr. Louis Hamman, Johns Hopkins University, Baltimore, and Dr. John H. Wyckoff, Professor of Medicine of New York University. The luncheon will be in charge of Dr. T. Martin Goodwin, New York University Medical School, and Dr. R. J. Condry, secretary of the West Virginia Heart Association.

In the afternoon Dr. Lawrence R. Wharton of Johns Hopkins Hospital, Baltimore, will address the meeting on "Tumors of the Kidney." This will be followed by an address on "Heart Diseases" by Dr. John H. Wyckoff, and on "Tumors of the Abdomen" by Dr. Louis Hamman.

The annual Clinic Day Banquet will be held at 6:30 o'clock that evening with Dr. J. Ross Hunter, Charleston, as toastmaster. The speaker will be Dr. Lawrence A. Pomeroy of Western Reserve University, Cleveland. His subject will be "New Names for Old Tumors."

BATTLE AGAINST INSECTS

The current upset balance of nature which has put man on top of the heap is responsible for many serious problems, for all life will maintain itself if possible, and it is not particular how it affects any other living thing, as Dr. George A. Skinner points out in Part IV of his series on "Nature's G-Men" which appears in the June *Hygeia*.

"Old timers" often remark how strange it is that in their day they had no serious trouble or expense in fighting insects and rodent pests as they do now. This is not mere enchantment lent by distance, but the truth. Today, with the larger numbers of persons inhabiting the same space and consuming all the available food, naturally the animals and insects must begin to show up in their true numbers to pester mankind for the wherewithal to maintain their lives.

CONVENTION TRANSACTIONS

Seventieth Annual Meeting, West Virginia State Medical Association

COUNCIL MEETING

MAY 24, 1937

The Council of the West Virginia State Medical Association met in the Stonewall Jackson Hotel at Clarksburg, W. Va., at 2:30 o'clock, Monday, May 24, 1937, Dr. Charles G. Morgan, presiding.

Those present were Drs. Morgan, R. H. Walker, G. R. Miller, R. J. Reed, Jr., Ralph Hogshead, B. C. John, R. K. Buford, T. M. Barber, Phillip Johnson, J. R. McClung, W. G. Harper, R. J. Wilkinson, W. S. Fulton, F. E. Brammer, R. V. Shanklin, B. S. Brake, J. R. Bloss, and Welch England.

In the absence of the secretary, Mr. Joe Savage, due to illness, his report was read by Dr. Reed and accepted upon motion of Dr. Hogshead, duly seconded and carried.

The report of the treasurer, made by Dr. Barber, was accepted upon motion of Dr. John, seconded and carried.

Dr. James R. Bloss presented the report of the Publication Committee. Following the formal report, Dr. Bloss explained the careful methods employed by the committee to determine the best possible successor to Dr. Bloss as a member of the Publication Committee, and recommended that serious consideration be given to Dr. G. G. Irwin, Charleston. He also stressed the great importance of sending the same delegates annually to meetings of the State Association and of the A. M. A. He commented at length upon Mr. Savage's fine services to the Association.

On motion of Dr. Reed, duly seconded, the report of the committee was accepted.

Dr. Brammer moved that Mr. Savage's salary be increased $50 a month, $25 to come from the funds of the JOURNAL and $25 from the general fund. The motion was seconded by Dr. Johnson and carried.

A motion was made by Dr. Walker, seconded by Dr. Buford, and carried, that Miss Clarkson's salary be increased $15 a month.

Dr. R. V. Shanklin reported on the operating of the Gary Plan of Medical and Hospital Service for the eight month period ending March, 1937, and answered numerous questions concerning it. It was his opinion that the percentage reported paid, 78.5, would be increased in subsequent years. It was moved by Dr. Harper, and seconded, that the matter be referred to a committee of three to report back to the Council meeting on Tuesday. Further discussion ensued, and Dr. Reed quoted the action of the Council at the meeting at Fairmont, June 10, 1936, as follows: "Dr. Irwin moved the adoption of the report. After considerable discussion by all of the Councillors in attendance, Dr. Harper moved that the report be adopted and that the plan of the U. S. Coal and Coke Company be given temporary approval for a period of one year. This motion was seconded and carried." Dr. Reed reiterated that the plan was not for the state as a whole, that it was to meet the peculiar problems of the section, and urged that the committee seriously consider at least the temporary approval of the plan for another year. Dr. Walker concurred in Dr. Reed's statement and suggested improvement of the plan to permit individual choice of physicians, the physicians to be paid direct from the hospital fund. Dr. McClung stated that it was not a matter for approval or disapproval of the West Virginia State Medical Association. Dr. Shanklin welcomed criticism and suggestions to improve the plan, and said that it was not desired to have it approved as a plan that could be adopted for the entire state or used as a precedent, but to have the approval of the Association for his section of the state. Dr. Hogshead was of the opinion that it was a hospital matter not involving the Association. After extended discussion the motion to refer the matter to a committee was carried, and the chairman appointed Drs. Reed, Buford and Wilkinson, to confer further with Dr. Shanklin and report on Tuesday.

Dr. G. G. Irwin, Charleston, was nominated by Dr. Wilkinson to succeed Dr. Bloss as a member of the Publication Committee. The nomination was seconded by Dr. Reed, nominations were closed upon motion of Dr. Brammer, seconded by Dr. Johnson, and carried, and Dr. Irvin was unanimously elected by acclamation.

Upon motion of Dr. Reed, seconded by various Councillors, it was voted that Dr. James R. Bloss be made editor emeritus of the JOURNAL.

On motion of Dr. Walker, seconded by Dr. Wilkinson, and carried, the following members were elected Honorary Members:

H. L. Kirkpatrick, White Sulphur Springs; S. P. Allen, Webster Springs; O. L. Aultz, Charleston; O. O. Caspter, Hinton; W. L. Miller, Bemis; W. W. Kerr, Volga.

There was discussion on the matter of depriving honorary members of active participation in the affairs of the society, and it was understood that the accepting of honorary membership was optional with those elected.

A petition for charter from the Wetzel County Medical Society was read by Dr. Reed. On motion of Dr. Brammer, duly seconded and carried, the matter was referred to Dr. Reed as a committee of one to report to the Council for action on Tuesday.

The Council recessed at 4:30 p. m. to reconvene at 10:00 a. m., Tuesday, May 25.

C. C. PACKARD, *Acting Secretary.*

MAY 25, 1937

The Council of the West Virginia State Medical Association met in the Stonewall Jackson Hotel at Clarksburg at ten o'clock a. m., on Tuesday morning, May 25, 1937. Dr. Charles G. Morgan, chairman, presided. Those present were: Dr. C. G. Morgan, Dr. R. H. Walker, Dr. R. V. Shanklin, Dr. Fred E. Brammer, Dr. R. J. Wilkinson, Dr. R. K. Buford, Dr. R. J. Reed, Jr., Dr. Welch England, Dr. W. C. Harper, Dr. B. C. John, Dr. James McClung, Dr. Ralph Hogshead, Dr. Phillip Johnson, Dr. B. S. Brake.

The committee to study Dr. Shanklin's plan of medical and hospital service for mine employees reported favorably upon the continuation of this plan with such improvements as can be worked out.

It was then moved, seconded and carried that a committee be appointed by the incoming chairman to study the advisibility of the society establishing a subsidiary corporation to collect and dispense funds collected from corporations for the medical and hospital care of their employees and that the West Virginia State Medical Association defray the expenses of this study. The report of this committee is to be submitted to the Council for later consideration.

On motion duly seconded and carried, a new charter was issued to the Wetzel County Medical Society on the petition of the duly licensed physicians residing therein.

There being no further business to come before the Council, the meeting adjourned at 11:10 a. m.

FRED E. BRAMMER, *Acting Secretary.*

HOUSE OF DELEGATES

MONDAY EVENING, MAY 24, 1937

The House of Delegates of the West Virginia State Medical Association met in the ballroom of the Stonewall Jackson Hotel, Clarksbsurg, on Monday evening, May 24, 1937, with Dr. W. S. Fulton, president, presiding. The meeting was called to order at 8:25 o'clock. Following the roll call, the reading of the minutes of the last meeting was dispensed with and the minutes approved as published in the WEST VIRGINIA MEDICAL JOURNAL.

The following reports (published elsewhere in these convention transactions) were submitted and accepted:

Report of the Secretary by Mr. Joe W. Savage.

Report of the Treasurer by Dr. T. M. Barber.

Committee on Necrology by Dr. W. E. Vest.

Public Policy and Legislation by Dr. Robert King Buford.

Public Assistance Advisory Committee by Dr. B. H. Swint.

Compensation Advisory Committee by Dr. B. H. Swint.

Committee on Publication by Dr. J. R. Bloss.

Committee on Maternal Welfare by Dr. J. R. Bloss.

Committee on Infant Welfare by Dr. Andrew E. Amick.

Under the head of new business, Dr. Vest presented a resolution introduced at the 1936 session to amend the Association constitution to read as follows:

"SECTION 2, ARTICLE IX: The officers, except the Councillors, shall be elected annually. The terms of the Councillors shall be for two years, one from each Councillor District being chosen each year. No Councillor shall be eligible to succeed himself after four years as Councillor, but he may be elected after two years' absence from the Council. All these officers shall serve until their successors are elected and installed. The calendar year next succeeding their election shall constitute the terms of the officers of the elective offices except for

the members of the Council, who shall serve as provided in this section."

Dr. Vest explained that the purpose of the change was to fix a definite time for all elective officers to take office. On motion of Dr. Amick, duly seconded, the amendment was adopted.

Dr. Vest next presented a resolution to change Section 1 of Article V of the Constitution to read as follows:

"The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) delegates elected by the component county societies; (2) all ex-presidents; and (3) ex-officio the president, the two vice presidents and the treasurer of this Association. The Councillors shall attend the meetings of the House of Delegates and may participate in all discussions, but shall have no vote."

Dr. Vest explained that the purpose of this amendment was to eliminate the vote of the Councillors in the House of Delegates but to allow the Councillors the privilege of the floor. After considerable discussion the amendment failed to receive the necessary two-thirds vote and lost.

Dr. Vest next reported a resolution to amend Section 4 of Article IX of the Constitution to read as follows:

"The retiring president shall be chairman of the Council for the year following his term of office, and he shall not be eligible thereafter for any elective office of the Association except for delegate to the American Medical Association and committee memberships."

It was explained by Dr. Vest that this amendment would enlarge the service of past presidents by making them eligible for committee appointments whereas their services are now limited to the A. M. A. House of Delegates, Publication Committee and Committee on Scientific Work. On motion of Dr. M. T. Morrison, seconded by Dr. J. L. Patterson, the amendment was put to a vote and carried.

Dr. Claude B. Smith, on behalf of the Kanawha Medical Society, then presented the following resolution to lay on the table for one year:

"*Be it Resolved,* That Section 1 of Article V of the Constitution of the West Virginia State Medical Association, be changed to read: 'Section 1. The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) delegates elected by the component county societies; (2) all ex-presidents; and (3) ex-officio the president, the two vice presidents and the treasurer of this Association. The Councillors shall attend the meetings of the House of Delegates and may participate in all discussions but shall have no vote.' "

Dr. Albert H. Hoge then offered the following resolution:

"We the members of the House of Delegates of the West Virginia State Medical Association in regular session now assembled, having heard of the death of Mr. John D. Rockefeller, Sr., wish to offer the following resolution:

"*Resolved,* That in the passing of Mr. John D. Rockefeller, Sr., we feel the world has lost one of its greatest citizens. His vast contributions to public health work in preventing diseases and the large sums of money contributed by him to research work seeking the cure of diseases made him the world's greatest benefactor to the entire human race, both to those who are well and desire to remain so and to that great mass of humanity who are ill or may become so in future years.

"*Be It Further Resolved,* That we extend to his family our sincere regret and sympathy on his passing. We are truly thankful, though, that a Divine Providence permitted him so long a life to stand out so boldly throughout these many years as the greatest example of unselfish devotion to the betterment of mankind.

"His greatest monument will be those now living and those yet unborn who will be happy because he lived."

Dr. Hoge moved the adoption of the resolution. This was seconded by Dr. Vest and unanimously carried.

Dr. W. R. Goff offered the following proposed change in Section 1, Chapter II of the Association By-Laws to read as follows: "The Association shall hold an annual session in November of each year at such place as has been fixed by the House of Delegates at the preceding annual session."

At the suggestion of Dr. Vest and Dr. George D. Jeffers, who pointed out that the West Virginia hunting season opened in November, Dr. Goff changed the month from November to October. The proposed amendment was then placed on the table for one day.

There being no further business to come before the House of Delegates, the meeting adjourned at 10:30 o'clock p. m.

Tuesday Evening, May 25, 1937

The House of Delegates met in the Ballroom of the Stonewall Jackson Hotel on Tuesday evening, May 25, 1937, with Dr. W. S. Fulton, president, presiding. The meeting was called to order at 9:10 o'clock.

The first order of business was the election of officers for the calendar year of 1938. The following were elected:

President, Dr. Charles W. Waddell, Fairmont; first vice president, Dr. H. H. Haynes, Clarksburg; second vice president, Dr. A. A. Shawkey, Charleston; treasurer, Dr. T. M. Barber, Charleston. Councillors: First district, Dr. Robert J. Reed, Jr., Wheeling; second district, Dr. B. C. John, Morgantown; third district, Dr. J. R. McClung, Richwood; fourth district, Dr. R. J. Wilkinson, Huntington; fifth district, Dr. Fred E. Brammer, Dehue; sixth district, Dr. Ralph Hogshead, Montgomery; A. M. A. delegate, Dr. Ivan Fawcett, Wheeling; A. M. A. alternate, Dr. George Evans, Clarksburg; Committee on Medical Education, Dr. George Lyon, Huntington; Dr. W. A. Cracraft, Wheeling, and Dr. L. M. Halloran, Beckley; Committee on Necrology, Dr. Walter E. Vest, Huntington.

Place of 1938 annual meeting, White Sulphur Springs.

Dr. G. R. Miller, vice president, assumed the chair and the Committee on the President's Annual Address made the following report:

Your Committee on the President's Address has carefully studied the message of our president, Dr. W. S. Fulton. We feel that never in the history of our organization has a more timely subject been called so strongly to our attention as this address on the socialization of medicine.

For some time the medical profession has been attacked by so-called social leaders, but now with the rapid advance in the socialization of medicine which has been taken up by our government as well as other local agencies, it behooves the medical profession to listen carefully and to thoroughly digest the statements made in this address tonight.

The example of the three doctors riding in a boat, to us seemed typical of our profession. There are always some doctors who are willing to fight and to strive for the best interests of our profession while others are lethargic and indifferent or for some reasons will sidestep the issue and are of the opinion that all is well and that there is nothing to fear. Dr. Fulton has always been and will continue to be a crusader for the success of organized medicine. The society has been fortunate in having him to lead us in this critical time, and he will follow faithfully in the footsteps of his illustrious predecessors who have led the fight for organized medicine against state medicine and against monopolistic medicine as practiced in certain sections of West Virginia today.

We wish seriously to call your attention to the closing passages of Dr. Fulton's address which he repeated verbatim from the Code of Ethics adopted in 1934 in the House of Delegates of the American Medical Association. If you will read these you will find that in many localities in our state we are not living up to the ethics as set down by our American Medical Association.

The Association as a whole feels a deep debt of gratitude for the sacrifice Dr. Fulton has made, for his diligent and untiring efforts given unsparingly, not only to the State Medical Association as president, but to organized medicine in the State of West Virginia as a member of the Advisory Board to the State Department of Public Assistance of West Virginia.

Submitted by R. H. Walker, chairman; R. J. Reed, Jr., C. W. Waddell. On motion of Dr. Amick, seconded by Dr. Barber, the report was unanimously adopted.

The proposed amendment of Dr. W. R. Goff to Section 1 of Chapter II of the By-Laws, relating to the time for the annual meeting was withdrawn by the sponsor.

A proposed amendment to Section 6 of Chapter I of the By-Laws, which was carried over from the preceding session, was presented to add the following to Section 6:

"(a) A Doctor of Medicine engaged in teaching or research or holding a position in the federal service or otherwise, who is not licensed to practice medicine and surgery in the State of West Virginia and hence is not eligible to active membership in this Association, and any other person engaged in medical teaching or research or other scientific work contributing to medicine or the public health, shall be eligible to election to Associate Membership in this Association, provided he be so elected by his local county society.

"(b) *Rights.* Associate members shall have all the rights and privileges of active members except the right to vote or hold any elective office in this

Association. The dues of associate members shall be five dollars per year to the State Association, which shall include subscription to the WEST VIRGINIA MEDICAL JOURNAL."

On motion of Dr. C. A. Ray, the House of Delegates went into a Committee of the Whole and the proposed amendment was adopted.

Dr. Waddell, new president-elect, then presented his nominations for the Committee on Scientific Work which were as follows: Dr. E. B. Wright, Clarksburg, chairman; Dr. Russell Bond, Wheeling, and Dr. J. S. Klumpp, Huntington. These nominations were confirmed by unanimous vote.

On motion of Dr. C. O. Henry, the Harrison County Medical Society and the press and people of Clarksburg were given a vote of thanks for the very splendid meeting.

As a token of the Association's appreciation for 21 years' service as editor of the WEST VIRGINIA MEDICAL JOURNAL, Dr. Fulton presented a wrist watch, suitably engraved, to Dr. James R. Bloss, Huntington, with appropriate remarks.

There being no further business to come before the House of Delegates the meeting adjourned at 10:30 o'clock p. m.

C. C. PACKARD, *Acting Secretary.*

SECTIONAL OFFICERS

Officers of the various special sections of the Association, and special societies affiliated with the Association, elected at the Clarksburg meeting are:

Section on Internal Medicine

Dr. H. R. Sauder, Wheeling, chairman; Dr. F. R. Whittlesey, Morgantown, secretary.

Section on Pediatrics

Dr. Claude L. Holland, Fairmont, chairman; Dr. Theresa O. Snaith, Weston, secretary.

Eye, Ear, Nose and Throat Section

Dr. George Traugh, Fairmont, chairman; Dr. Welch England, Parkersburg, secretary.

Section on Surgery

Dr. W. R. Goff, Parkersburg, chairman; Dr. Justus C. Pickett, Morgantown, secretary.

West Virginia Heart Association

Dr. W. C. Stewart, Charleston, president; Dr. P. A. Tuckwiller, Charleston, vice president; Dr. R. H. Condry, Elkins, secretary.

West Virginia Obstetrical Society

Dr. W. W. Point, Charleston, president; Dr. M. B. Williams, Wheeling, vice president; Dr. Edwin J. Humphrey, Huntington, secretary.

Society of Industrial Physicians and Surgeons

Dr. T. L. Harris, Parkersburg, president; Dr. Randolph L. Anderson, Charleston, vice president; Dr. E. Bennette Henson, Charleston, secretary.

SECRETARY'S REPORT

Each year, as the work of our various Association committees becomes more efficient and widespread, this report of your executive secretary becomes more brief. There are many activities carried on through the Association headquarters during the past twelve months which will be of the keenest interest to you, but these activities will all be brought to your attention through the various committee reports which will be made later on today. The Association headquarters office has been closely allied to and worked in close cooperation with your Committee on Legislation, your Compensation Advisory Committee, your Public Assistance Advisory Committee, your Committee on Maternal Welfare and your Committee on Child Welfare. As detailed reports from all of these committees will be made at the meeting of the House of Delegates, it is hardly fitting or proper to go into these details in my own report.

The report of the Legislative Committee does not cover the Extraordinary Session which was held last June, immediately following our 69th annual meeting. I reported the details of this session to the Council at its December meeting. The purpose and scope of the Social Security Act will be taken up in the report of your Public Assistance Advisory Committee.

In regard to legislation, there is one other matter I would like to bring to your attention which is closely allied to the above and which I do not believe is covered in the Legislative Committee report. I refer to the apparent lack of interest on the part of individual Association members in our Association's bi-annual legislative program. Not only during the recent session, but in practically every session that I remember, there has been a lack of individual cooperation which has made it most difficult for us to realize some of our legislative ambitions. Some doctors and some county societies respond promptly and willingly when we ask their support ,but I believe I am safe in saying that most of them do not. I am afraid that most of our members are willing to take our legislative prowess too much for granted. They seem to feel that the

Legislative Committee can do anything it sets out to accomplish without any outside help. Oftentimes we do not need the active support of our individual members in legislative work. Many occasions arise where we can do just as effective work without it. However, when we mixed up in anything like a basic science bill where we line up against the cults and Christian Scientists, our only chance of success is through the vigorous support of our individual members back home. The various cult organizations have small influence compared to our own. However, their organizations are smaller and their individual members more easily contacted. Somehow or other they always put it over on us when it comes to sending in letters and telegrams to the lawmakers from their respective counties. For example, the combined membership of the Chiropractic and Osteopathic Associations is just about one-twelfth the membership of our State Association. However, when the support of individual members is necessary in the Legislature, they always seem to show more support than we do. I think this is largely the result of overconfidence on the part of our Association members and I wish the Delegates and Councillors in attendance would help to preach this gospel when they go back home. Before another session of the Legislature arrives, our Association members *must* learn individually and collectively how to make a better legislative attack. We have not lost anything in the legislature for some 12 or 15 years and we have gained a lot, but we could have accomplished more more if we were able to properly utilize the influence of our individual members.

Membership: Reviewing our Association membership for the past few years, we had 1115 members in good standing at the close of 1935. This increased to 1154 members at convention time last year and the number has increased further to slightly over 1200 members at the present time. At convention time in 1935 we had 136 unpaid members. Convention time last year we had 76 unpaid members. At convention time this year we have only 61 unpaid members. In addition to the new members who were taken into the Association in 1936, we have added 83 additional new members since the first of January, 1937. During the past year we have lost approximately 50 members through death and transfer.

Honorable mention should be given to the following societies with 100 per cent paid up membership for the year: Brooke, Central West Virginia, Doddridge, Eastern Panhandle, G-H-H-M, Lewis, Mason, Wetzel.

Creditable increases in membership have been experienced by Cabell with eight new members, Eastern Panhandle with five; Fayette with four, Harrison with five; Kanawha with 11; Logan with seven; McDowell with seven, and Mercer with six.

Finances: Both the Association and the WEST VIRGINIA MEDICAL JOURNAL have had successful financial years. Financial statement made by Auditor Ben H. Puckett, certified public accountant, on May 1, 1937, shows a balance at the beginning of the fiscal period of $23,280.21. Income from all sources during the past 12 months amounted to $19,178.99. Disbursements (including disbursements for investment purposes) amounted to $19,288.47. Out of the total disbursements was paid $1,267.75 on the Nicholson insurance policy, increasing its cash surrender value to $7,250.00 and the payment of $352.80 on the JOURNAL's Fidelity annuity contract, increasing its cash value to $2,133.00. On May 1, 1937 we had:

Total cash in Charleston Nat'l Bank	$ 6,663.64
Cash in Nat'l Bank of Commerce	1,041.00
Annuity Contract	2,133.00
Investment in Nicholson Property	13,442.57
Surrender Value of Nicholson Policy	7,250.00
Total	$30,530.21

Journal: THE WEST VIRGINIA MEDICAL JOURNAL enjoyed one of its most successful years. The total journal income for the year amounted to $6,591.36. Disbursements amounted to $5,123.24, leaving a net profit for the year of $1,468.12. This brings the total assets of the JOURNAL to $10,-917.95. This years' profit, as well as all of the JOURNAL profit for the past ten years, has been made entirely on advertising. During this ten year period, the JOURNAL has been constantly improved, better paper and cover stock has been used, the JOURNAL has been more liberal in its allowance for illustrations and the publishing cost has gradually increased. In spite of this, and even through the depression, our JOURNAL has been able to show a comfortable profit each year and I imagine it has one of the best financial records of any state journal in this country.

During the past year we have made additional improvements on the Association headquarters suite in the Public Library Building. We have cut our own private entrance in from Hale Street, have transformed the former library into a reception and work room and converted our former reception room into a most attractive library and conference room. This has greatly improved the appearance and convenience of our headquarters. The cost of these improvements amounted to approximately $500.00, which was more than saved when we were able to procure a five year lease on our headquarters suite without any increase in rent. In addition to the above expenditures, we purchased special convention equipment authorized by the Council in the amount of $320.00, and following last years' convention, there were items of approximately $250.00 incident to the erection and dedication of the Reeves Monument. I mention these various items because they should be classed as non-recurrent expenditures and should not be considered as a part of the operating expense of the Association headquarters office.

In closing, may I express my sincere appreciation to the Officers, Councillors, Delegates and Association members for their friendly and cooperative attitude toward my office. Particularly do I wish to thank all of the county secretaries for their splendid and untiring efforts of the past year. Also I am particularly indebted to our president, Dr. W. S. Fulton, for his help and advice in conducting the Association activities. I hope our accomplishments of the past year will meet with your approval.

JOE W. SAVAGE, *Executive Secretary.*

AUDITOR'S REPORT

To the Council,
West Virginia State Medical Association,
Charleston, West Virginia.

Gentlemen:

Pursuant to my engagement, I have audited the receipts and the disbursements of the several funds of the West Virginia State Medical Association covering the fiscal year ended April 30, 1937.

Beginning with the balances as set forth in my audit for the preceding year, I have made test verifications of receipts, examined cancelled checks covering all disbursements, and reconciled the cash book balances with statements from the depositories. As a result of my audit, I hereby certify that all receipts of record have been fully accounted for as stated in the attached statements.

At the beginning of the fiscal year under review, there was a balance of $23,389.69. There was a total income from all sources during the year in the amount of $19,178.99. Disbursements, exclusive of an addition of $352.80 to the Annuity Contract with the Fidelity Investment Association, amounted to $19,288.47, leaving a balance of $23,280.21. This balance was composed of cash in the amount of $7,704.64, investment in Annuity Contract $2,133.00, and investment in Nicholson Property $13,442.57.

In addition to the assets enumerated at the end of the period, there is a cash value on the insurance carried on the life of Dr. Nicholson. Annual premium in the amount of $1,267.75 was paid from the General Fund increasing its value from $6,525.00 to approximately $7,250.00.

Respectfully submitted,
BEN H. PUCKETT,
Certified Public Accountant.

COMBINED STATEMENT OF RECEIPTS AND DISBURSEMENTS
(Inter-Fund Transfers Eliminated)

Balance Brought Forward May 1, 1936..		$23,389.69
RECEIPTS:		
Dues	$11,019.00	
Advertising (Net)	6,424.36	
Emblems and Frames Sold	127.00	
Interest on Bank Balance	2.21	
Commercial Exhibits	620.00	
Rent—Nicholson Property	840.00	
Miscellaneous	146.42	$19,178.99
		$42,568.68
DISBURSEMENTS:		
General Fund	$12,350.70	
Medical Journal Fund	5,123.24	
Indigent Fund	300.00	
Medical Defense Fund	100.00	
Convention Fund	873.69	
Nicholson Property Fund	540.84	$19,288.47
BALANCES APRIL 30, 1937:		
Cash — Charleston National Bank:		
Checking Account $6,550.01		
Savings Accounts 113.63	$ 6,663.64	
Cash — National Bank of Commerce—Savings Account	1,041.00	
Annuity Contract—Fidelity Investment Association	2,133.00	
Investment in Nicholson Property	13,442.57	*$23,280.21

*Does not include cash value of Insurance Contract on the life of Dr. Hugh G. Nicholson in the approximate amount of $7,250.00.

GENERAL FUND

Balance Brought Forward May 1, 1936..		$ 9,701.14
RECEIPTS:		
Dues	$11,065.50	
Less: Refunds	46.50	
	11,019.00	
Miscellaneous	106.42	$11,125.42
Total to be Accounted for		$20,826.56
DISBURSEMENTS:		
Salary of Executive Secretary	$ 4,767.00	
Office Salaries	1,214.00	
Office Supplies and Expense	420.37	
Office and Library Rent	440.00	
Library Expense	39.00	
Telephone and Telegraph	211.82	
Postage	337.00	
Traveling Expense	868.53	
Convention—Programs, Folders, etc.	426.25	
Reporting Convention	359.78	

Annual Premium for Insurance on life of Dr. Hugh G. Nicholson		1,267.75*	
Convention Equipment		352.75	
Suspense Account		380.85	
Legal Fees		365.00	
Remodeling Library and Office		435.22	
Miscellaneous (including Monument)		465.38	
		$12,350.70	
Transferred to:			
Indigent Fund	$520.50		
Medical Defense Fund	520.50	$ 1,041.00	$13,391.70
Balance April 30, 1937			$ 7,434.86

*The cash surrender value on this policy is $7,250.00 as of July 1, 1937.

MEDICAL JOURNAL FUND

Balance Brought Forward May 1, 1936			$ 9,449.83
RECEIPTS:			
Advertising	$7,130.76		
Less: Discounts	706.40	$ 6,424.36	
Emblems and Frames Sold		127.00	
Miscellaneous		40.00	$ 6,591.36
Total to be Accounted for			$16,041.19
DISBURSEMENTS:			
Printing		$ 4,339.40	
Engraving		228.60	
Postage		132.00	
Advertising Commission		16.20	
Emblems Bought		150.00	
Miscellaneous		197.04	$ 5,123.24
BALANCE APRIL 30, 1937:			
Cash		$ 8,784.95	
Annuity Contract With Fidelity Investment Association:			
Balance May 1, 1936	$1,780.20		
Paid this Period	352.80	$ 2,133.00	$10,917.95

INDIGENT FUND

Balance Brought Forward May 1, 1936		$ 3,371.91
RECEIPTS:		
Interest on Savings Account	$ 2.21	
Transferred from General Fund	520.50	$ 522.71
Total to be Accounted for		$ 3,894.62
DISBURSEMENTS:		
Mrs. S. A. Daniel		$ 300.00
Balance April 30, 1937		$ 3,594.62

MEDICAL DEFENSE FUND

Balance Brought Forward May 1, 1936	$ 62.92
RECEIPTS:	
Transferred from General Fund	$ 520.50
Total to be Accounted for	$ 583.42
DISBURSEMENTS:	
Attorney Fee (Dr. O. H. Fulcher)	$ 100.00
Balance April 30, 1937	$ 483.42

CONVENTION FUND

Balance Brought Forward May 1, 1936		$ 134.40
RECEIPTS:		
Commercial Exhibits		$ 620.00
Total to be Accounted for		$ 754.40
DISBURSEMENTS:		
Supplies and Labor	$ 225.49	
Traveling Expense	290.36	
Entertainment (Fairmont Hotel)	321.84	
Miscellaneous	36.00	$ 873.69
Balance April 30, 1937 (Overdraft)		$ 119.29

NICHOLSON PROPERTY ACCOUNT

Balanct Brought Forward May 1, 1936		$ 669.49
RECEIPTS:		
Rents		$ 840.00
Total to be Accounted for		$ 1,509.49
DISBURSEMENTS:		
Insurance	$ 6.00	
Taxes	124.20	
Repairs	410.64	$ 540.84
Excess of Income over Expenses		968.65
Cost of Property		$13,442.57
Deficit—Fund Account April 30, 1937		$12,473.92

PUBLIC ASSISTANCE ADVISORY COMMITTEE

When the West Virginia Welfare Department closed its doors a little over one year ago, your Association Advisory Committee stepped out of the frying pan. When the State Department of Public Assistance was created a few weeks later, we stepped into the fire. I think we have remained on a hot spot from that time until the present day.

At the time of the creation of the Department of Public Assistance our committee comprised about the only group familiar with all the various problems and details of "medical relief." Consequently we were drafted into service to help work out the new program. Through two and one-half years' experience with the old relief administration we had a good idea of what would work and what would not. Our first step was proper organization.

After a considerable length of time we were able to organize a county public assistance advisory committee in each county in the state. The function of each committee was to look after and protect the interests of the medical profession in each county. When this preliminary work was fairly well along we started working with Director A. W. Garnett and the State Advisory Board on actual details.

So far as possible we followed our old plan which had worked somewhat successfully under the old relief administration. Our plan called for the free choice of physician and set up a modest schedule of allowances for house and office calls, maternity cases, drugs and surgical fees. We asked for and insisted on the old mileage rate of 10 and 15 cents per mile, but this was temporarily denied. Mileage was fixed at five cents per mile with no distinction between concrete highways and mud holes.

The surgical fees presented a new problem, because neither surgery nor hospitalization was provided under the old relief administration. The fees which were finally agreed upon by our committee and the State Advisory Board were not large, but were considered ample because of the destitution of almost all of the prospective patients. We secured

a more liberal arrangement for prenatal and postnatal visits. Other fees were set up exactly as they had been under the relief administration. With this work behind us, the Public Assistance program finally began to function around the first of this year.

Thus far we have dealt only with "general relief." The second phase of public assistance dealt with by our committee was the program of Adult Physical Rehabilitation. As many of you know, our committee inaugurated an experimental adult physical rehabilitation program on a small scale under the old relief administration. During this experiment there were hospitalized 120 male relief clients. At the end of six months 97 of this number were off the relief rolls and back in gainful employment. As a result of this experiment, the extraordinary session of the legislature last June created a permanent adult physical rehabilitation program as an amendment to the Public Welfare Law. This program is now in operation throughout the state and is in charge of Mr. Charles W. Ritter, with offices in Charleston.

The two most difficult problems faced by our committee during the past year had to do with the low mileage rate of five cents per mile and the method of assigning adult physical rehabilitation cases. The first named problem has been marked off the books for, as you know, the mileage rate was increased to 10 cents per mile (each way) on hard roads and 15 cents per mile (each way) on unsurfaced roads. This mileage increase went into effect on May 15, 1937.

Reviewing our experience with the rehabilitation program, let me say first of all that the responsibility for the success or failure of this important work has been placed squarely upon our shoulders. This is a responsibility which we must share between the State of West Virginia and the organized medical profession. It is up to us to please both groups, for we are responsible to both groups. To please both groups is a most difficult task.

Suppose, for example, we allowed all persons eligible for rehabilitation to have free choice of physician. That is in accord with our own medical tradition and would certainly please the medical profession. But what about the state. If free choice were allowed, what assurance would the state have that their rehabilitation cases would be operated on by competent surgeons. None at all. There would be no way in the world to keep these patients from falling into the hands of incompetent and unqualified surgeons. Disastrous results would follow in many instances and the State of West Virginia would get a very, very poor return on its investment in human welfare. Would you—would anyone—responsible for the welfare of such a program be willing to throw it wide open with no means of control. I think not.

Now let us take the other extreme. From the viewpoint of the state, perhaps the best thing we could do would be to recommend the employment on retainer salaries of the leading and best qualified surgeons in each locality. That would insure the state that the work would be done at a minimum of expense and by the very best of our surgical talent. But that would be disastrous so far as the medical profession is concerned. Such a plan would not only promote one of the worst forms of state medicine but would also eliminate entirely some scores of younger men who are qualified by training and experience to do rehabilitation work.

Between these two extremes we have looked for our solution. While we have not yet found this solution, I think we are hot on the trail. At the present time, all rehabilitation cases are assigned either to the chief surgeons or to some designated doctor on the staff of the various hospitals. We send out instructions to the doctors who receive these cases that they should be equitably distributed to those members of the hospital staff qualified as competent surgeons. When we devised this method of assigning rehabilitation cases, it was our thought that the chiefs of the various hospital staffs would be better qualified than any other group to pass upon competency of their respective staff surgeons. In theory we still believe that this assignment plan has merit, but experience has taught us that the practical application of this plan has not been satisfactory. We know, from the many complaints which we have received, that this plan is not satisfactory to the medical profession, although it has worked out very well in some communities.

In an effort to find a more equitable system of distributing these rehabilitation cases, and bearing in mind, at the same time, our responsibility to the state, we have been at work for the past several weeks on a new plan which we hope will meet with your approval. First we are preparing a standard of minimum requirements which must be met by all doctors who wish to qualify for rehabilitation surgery. When this is completed, we wish to send

out an explanatory letter to every doctor in the state calling attention to the minimum standards and asking the doctors who wish to qualify to fill out and return an application form which will be attached to the letter. When these application forms are returned they will be carefully checked and a list compiled of all the surgeons who qualify. This list will then be turned over to the Adult Physical Rehabilitation Department and the cases will be assigned to these surgeons in proper rotation.

I have already stated that our present system of assigning cases is not satisfactory. We do not believe that the new plan which I have just outlined will be 100 per cent satisfactory to our entire membership. But we do believe, based on our past experience, that this new method of assigning cases will be much more equitable than the present plan and much more pleasing to the medical profession.

We have already made some contacts with the Association's Surgical Section for advice and guidance in working out the aforementioned plan and we hope it will be the pleasure of the House of Delegates to approve this procedure.

May we take this opportunity to express our very keen appreciation to our Association President, Dr. W. S. Fulton, who as a member of the State Advisory Board, has been largely responsible for the successful endeavors of this committee. Dr. Fulton has been placed in a position to look after and protect the interests of organized medicine in the social security program and he has done a great job for all of us.

In closing, we wish to urge all Association members, both those doing rehabilitation surgery and those handling general relief cases, to cooperate with this committee to the fullest extent. If you will do this, I think we will be protected from the menace of socialized medicine and sickness insurance for a good many years to come. While there are many features of our social security program which none of us like, we feel that it is much better to work with and control the medical aspects of social security than to bring upon ourselves a worse form of practice in which we will have no voice.

B. H. SWINT, *Chairman*
JOHN W. MOORE,
G. G. IRWIN.

WORKMEN'S COMPENSATION

Our report on Workmen's Compensation will be short and to the point. There is not much to say except to tell you that we have met regularly with Senator Albert G. Matthews, Workmen's Compensation Commissioner during the past year and I believe we have adjusted and arbitrated all problems that have arisen between the department and the medical profession. There may be one or two cases still under consideration; if so they will be taken care of at our next conference.

Perhaps the most important contribution made by our committee to the medical profession during the past year was the change in the personnel of the Medical Examiner's Department. We took this up last fall with Governor Kump and urged him to secure the services of a full time medical examiner, to pay a fairly attractive salary for this work, and to secure an examiner not engaged in any way in private practice or connected in any way with any hospital or hospital staff. While Governor Kump was favorable to this proposal, his time was so taken up with the special session of the Legislature that he took no action in regard to the Compensation Department.

Several weeks ago, following the close of the regular session of the Legislature, we went into this matter with Governor Holt and pointed out to him the advisability of securing a disinterested doctor for the office of medical examiner and of placing this position on a full time basis. As most of you know, Governor Holt has agreed to this and the recommendations above mentioned will be carried out before the first of the next fiscal year. We feel that Doctor G. C. Schoolfield is a most excellent selection for this position. He is so well fortified by experience and his judgment and integrity so well recognized throughout the state that a better man probably could not have been found for the position. Dr. Schoolfield has completely retired from all private practice and has severed all his connections with Charleston hospitals. We believe that much of the criticism that has been directed in the past toward the office of medical examiner will be eliminated when Dr. Schoolfield takes over his new duties.

We do not wish to close this report without calling attention to the very hearty cooperation that has existed between this committee and Senator Albert G. Matthews, Workmen's Compensation Commissioner for the State of West Virginia. We have found Senator Matthews and his associates, particularly Mr. Ralph Hartman, very reasonable and fair in all dealings with the medical profession

and willing at all times to be guided by the opinions and advice of the personnel of your committee.

In closing, your committee would like to make one observation. In settling the disputed claims of individual doctors with the Compensation Department, we have found that more than 75 per cent of disputed claims originate by virtue of unusual and long drawn out treatments rendered by the doctor. It is clearly stated in the Compensation Department Manual that all unusual cases should be taken up with the department by special correspondence so that authorization can be secured in advance. If this had been done in the past there would be very few disputes between individual doctors and the Compensation Department. We wish to take this opportunity to urge all Association members to take up through personal correspondence with the Commissioner any and all cases of an unusual nature that will not fit in with the ordinary pattern outlined by their schedule of fees.

Respectfully submitted,

B. H. Swint, M. D., *Chairman*
J. W. Moore, M. D.
G. G. Irwin, M. D.

COMMITTEE ON MATERNAL WELFARE

The various members have from time to time during the interim since our last meeting met with Parent-Teachers' Associations and various societies. The work has not been particularly pushed by the committee, but the Advisory Committee of the State Health Commissioner's office upon which the chairman of the Child Health Committee and your chairman of the Maternal Welfare Committee have served, has arranged a program for the activities in the way of postgraduate work for the medical profession during July and August of this year. Dr. Amick, the chairman of the Child Welfare Committee, will outline to you in his report the program which it is planned for the State Health Commissioner's office to put on in the way of postgraduate work this summer. It is hoped that the district committees which you elected last year will cooperate to the fullest extent with Dr. Blake and with the various county societies in their district in making this program this year a very valuable thing for members of the profession.

James R. Bloss, *Chairman.*

PUBLICATION COMMITTEE

Your attention is called to the fact that while the actual printing cost of the Journal has not increased, still because of an increase in the circulation, due to an increase in membership, the per month cost for extra copies has averaged approximately $20.00.

Your attention is also called to the increase in cost of engraving. This has been due to the committee being liberal in supplying cuts.

The committee hopes that the innovation of publishing the cover pages of the Journal in two colors meets with your approval. The cover design has caused favorable comment and we hope that the use of red to call attention to some special number of the Journal or some especial feature of the Association's work meets with your approval also.

In passing, the committee wishes to mention the fact that the February issue, which was the special number on syphilis, has been an especially popular one. Requests for this particular number have been received from all over the world and long since has the supply been exhausted.

The committee would call your particular attention to the income from advertising. You will note that the gross advertising receipts were $7,130.76, which, allowing for discounts, nets the Journal $6424.36. The income from automobile emblems and frames has amounted to $127.00, with miscellaneous income of $40.00, which makes a total income of $6591.36. The disbursements are itemized for your inspection and total $5123.24, which means a net income from the Journal's activities of $1468.12. A satisfactory showing in the opinion of your committee.

The committee has continued the policy of requesting the executive secretary and business manager of the Journal to attend the meeting of the American Medical Association and the Southern Medical Association as a matter of business policy. Your Committee has carefully watched the results of these contacts made by the business manager with national and international exhibitors at these conventions, with the idea in view of seeing whether or not these contacts were profitable. Your committee is more firmly convinced than ever that this is a profitable investment for your Journal. We hope that this policy of the Committee is approved by you.

The committee, as a whole, wishes again to express to Mr. Savage its appreciation of his whole-

hearted cooperation and feels that the success of this year's financial showing is very largely due to his activities. In view of this, the committee is desirous of again recommending to the Council an increase of $25.00 per month in Mr. Savage's salary, to be charged to the expense of the JOURNAL's publication.

Respectfully submitted,

J. HOWARD ANDERSON, M. D.
C. R. OGDEN, M. D.
CHAS. A. RAY, M. D.
WALTER E. VEST, M. D.
JAS. R. BLOSS, M. D., *Chairman*

COMMITTEE ON LEGISLATION

Your Committee on Legislation desires to report a fairly satisfactory, though not completely satisfactory, session of the 1937 legislature. While all three members of the committee were fairly new at the legislative game, we worked hard, we learned a lot and I believe our endeavors met with fair success.

First we wish to discuss briefly the Basic Science Bill which was our major legislative objective and which failed of passage. This bill was quite new to the legislature, due to the fact that basic science legislation was never before considered by a West Virginia legislative body. On two or three occasions during the session, we thought we were going to get the bill through but a week before the session ended we knew, because of circumstances which we could not control, that this bill was not going to make the grade. When this became apparent, we stopped and centered our remaining efforts toward the passage of the Compulsory Immunization bill which went through on the last night of the session.

Before we get to the Immunization Bill, we desire to make a few observations on basic science. Although the basic science idea was new, it enlisted many staunch supporters during the recent session who will go down the line with us if the bill is introduced again in 1939. Also the introduction of the bill enabled us to hear and to become familiar with the arguments and tactics of the opposition so that we can be fully prepared to answer and counteract the opposition's defense when the bill comes up again.

Much of the credit for the passage of the Compulsory Immunization bills goes to Dr. George Evans of Iaeger, who represented McDowell county in the legislature, and to Dr. Thomas H. Blake and the State Health Department. Dr. Blake was instrumental in having the bill introduced and Dr. Evans nursed it through the intricacies of the final week of the legislature. To the best of our knowledge, West Virginia is the only state that has an immunization law for both diphtheria and smallpox.

Measures of interest to your committee and to the profession, but in which we took no direct active part, are as follows:

House Bill 384 relating to Workmen's Compensation provides that whenever a claimant is ordered to appear for examination before a compensation medical examiner, both the claimant and his employer shall have the right to select their own physicians to participate in such examinations and, if not concurring in the report of the examiner, each may file separate reports which shall be considered by the Commissioner in passing upon the claim. The bill also provides that claimants shall be provided with reasonable traveling expenses when reporting for examination in other cities.

Senate Bill 119 provides for the registration of nurses and prohibits the improper use of the initials "R.N." Nurses registered in other states will not be allowed to practice nursing in West Virginia without being registered in this state.

Senate Bill 120 raises the requirement of pupil nurses in training from "at least one year of high school education" to "at least four years of high school education."

The budget bill raised the budget of the State Health Department $30,000 per annum over the 1935 allowance.

House Bill 445, relating to the Department of Public Assistance, redefines "general relief" and the following clause of the former definition has been stricken out "A person financially able to maintain himself under ordinary circumstances, but unable to provide necessary medical or surgical care or treatment shall be eligible to general relief." With this clause removed, one of the most troublesome features of the welfare law has been established. It will still be possible in certain circumstances for such persons to secure necessary medical care, but the elimination of the specific clause removes the borderline cases which have been causing most of the difficulty.

Both Pinecrest Sanitarium at Beckley and Denmar Sanitarium at Denmar received grants for

building purposes. The budget carried an item of $220,000 for a hospital building at Pinecrest and $146,850 for a colored tuberculosis sanitarium at Denmar. Both of these amounts are contingent upon a federal grant to defray 45 per cent of the total cost of the two buildings.

This report has already pointed out that no measure opposed by your committee reached the floor of either house for consideration. It is our sincere hope that our legislative efforts in behalf of organized medicine will meet with your approval.

Respectfully submitted,
ROBERT KING BUFORD, *Chairman*
P. A. TUCKWILLER,
RUSSELL KESSEL.

COMMITTEE ON CHILD WELFARE

A joint meeting of Child Welfare and Maternal Welfare Committees was held in Charleston, December 14, 1936. The following policies for the conduct of Well Baby Clinics were adopted:

The county health officer, or county health nurse, shall be responsible for organizing and conducting well baby clinics, but the examinations shall be made by physicians in private practice. No clinic is to be organized in towns of more than 10,000 population due to the fact that this a rural program.

These clinics are to be held regularly once each month on the same day and in the same place. It is hoped that the various county societies will endorse these clinics. The support and cooperation of the local physicians must be obtained. The purpose of these clinics is to keep well babies well, and not to care for sick children. These clinics must not be held in a private physicians office, but should be held in the health office, school, church, hospital or like places. The clinics shall run for two hours, and until additional funds are made available, the fee to the doctor shall be $5.00. If several physicians offer their services the rotating policy shall be used.

Every child with disease, or illness, shall be referred to the private physician. No treatments shall be given or suggested.

The Postgraduate Conferences for physicians conducted in the summer of 1936, on general pediatric subjects had a total attendance of 379 doctors. These courses were under the supervision of our State Health Department—financed through the Social Security Act and were worthy of a much better attendance.

Such conferences for he present year will be conducted in 15 different towns throughout the state. They will be held one day each week for a period of seven weeks; the hour to be selected by the physicians in the various communities. Tentative date for starting is the week of July 12. Two weeks will be given to pediatrics, two weeks to venereal diseases, and three weeks to obstetrics.

Pre-school health conferences are now being conducted in all counties except five, in the entire state. Private physicians are making the examinations and are being paid a fee of $10.00 for five hours work. All children with defects are being urged to go to their family doctor for correction.

The Advisory Committee of our Association to the Division of Maternal and Child Hygiene of the State Health Department has held four meetings in Charleston since the last report of your committee.

It is the pleasure of your committee to report to you that your approval, at your last annual meeting, of a bill to be sponsored by our State Health Department in our 1937 Legislature meeting requiring all children to be immunized for diphtheria and vaccinated for smallpox before entering school was successfully enacted into law. The policy of our State Health Department is for all such immunizations to be done by the private physicians, wherever possible. It now becomes the full responsibility of the various county societies to work out their own programs for doing this work.

The county, and the city governing bodies through their various local health units are going to do this work unless we do it ourselves. We hear much criticism today of wholesale immunizing campaigns conducted by the various public health officials. Your committee condemns such activity, but in such a condemnation wishes to emphasize that it is the individual responsibility of every physician in the state to see that every child in the homes in which he visits is immunized. If we fulfill our responsibility to the people whom we pretend to serve we will have no fight with health officials in this phase of their political entrenchment in office. I wish to move a standing vote of appreciation to the officials of our State Health Department who worked for the successful enacting into law of our immunization bill.

ANDREW E. AMICK, *Chairman.*

(The Report of the Committee on Necrology will be found on page xx.)

AUXILIARY CONVENTION NEWS

The Woman's Auxiliary to the West Virginia State Medical Association held its thirteenth annual meeting in Clarksburg, May 24, 25, 26, 1937. Convention headquarters were in the Stonewall Jackson Hotel, with Mrs. J. E. Wilson, Clarksburg, in charge of the registration desk. All general meetings were held in the Stonewall.

At 3:00 o'clock Monday afternoon, May 24, the Executive Board held its preconvention meeting with Mrs. A. H. Stevens, president, presiding. An informal dinner and dance followed the meeting at the Gore Hotel.

Tuesday, May 25, at 9:00 a. m. the meeting was called to order by Mrs. Stevens. The invocation was given by Mrs. T. M. Hood of Clarksburg; address of welcome, Mrs. A. J. Kemper, Lost

MRS. F. S. HARKLEROAD, HARVEY, W. VA.
Auxiliary President-Elect

Creek, president of Harrison County Auxiliary; response, Mrs. D. S. Hess, Holden; introduction of Mrs. J. E. Page, general convention chairman; in memoriam services, roll call of counties, minutes of last meeting, etc., followed in order. Reports and recommendations were given by the officers followed by the reports of the standing committees. At this time Mrs. Stevens gave the presidential address and report.

A beautifully appointed luncheon claimed the Auxiliary's attention at the Gore Hotel following the morning program. Mrs. Stevens presided. Doctors W. S. Fulton and Charles G. Morgan were the guest speakers. A round table discussion occupied most of the afternoon after which the

MRS. E. H. STARCHER, OMAR, W. VA.
New Auxiliary President

Harrison Auxiliary entertained with a formal tea at the Clarksburg Country Club.

The past president's breakfast was held at the Gore Hotel, Wednesday morning, May 26.

The general meeting opened at 10:00 o'clock. Mrs. Arthur A. Shawkey of Charleston gave a brief but lovely eulogy of Mrs. C. A. Ray, wife of Dr. Ray of Charleston who passed away early Wednesday morning in the Stonewall Jackson Hotel where she and Doctor Ray were staying during the convention. A telegram was read from Mrs. J. H. Robinson of Philadelphia conveying her greetings and wishes for a successful meeting. After reports from the various county presidents were heard the report of the Nominating Committee was read as follows:

President-elect, Mrs. F. S. Harkleroad, Harvey; first vice president, Mrs. G. A. Ratcliff, Huntington; second vice president, Mrs. J. E. Rucker, Charleston; third vice president, Mrs. J. H. Anderson, Hemphill; recording secretary, Mrs. W. C. D. McCuskey, Wheeling; treasurer, Mrs. B. B. Nicholson, Parkersburg.

There being no nominations from the floor these members were unanimously elected and duly installed in their respective offices. Courtesy resolutions were read by Mrs. D. S. Hess, Holden.

Luncheon was in the Dixie Room of the Stonewall Jackson Hotel on Wednesday with Mrs. Stevens again presiding. In the absence of Mrs. Frank N. Haggard, San Antonio, Texas, president of the Woman's Auxiliary to the Southern Medical Association, who was to have been the guest speaker, Mrs. V. E. Holcombe, Charleston, chairman of the Program Committee of the Auxiliary to the American Medical Association, read a very interesting and charmingly presented paper on the rôle of the doctor's wife from early times. Mrs. Shawkey, historian of the Kanawha Medical Society Auxiliary, read a very clever original poem in which was outlined events of the past year as they affected the Kanawha Auxiliary and its members. Mrs. Stevens was presented with a gift of silver by Mrs. S. S. Hall of Clarksburg as a token of the Auxiliary's appreciation for her past work.

A postconvention board meeting followed the luncheon with Mrs. E. H. Starcher, the new president, in charge. Mrs. Starcher appointed the following officers and committees:

Committee on Archives, Mrs. Russell Kessel, Charleston; historian, Mrs. R. C. Bond, Wheeling; Hygeia, Mrs. H. P. Evans, Keystone; legislation, Mrs. E. B. Wright, Clarksburg; parliamentarian, Mrs. C. I. Parks, Fairmont; press and publicity, Mrs. H. E. Beard, Huntington; program, Mrs. H. V. Thomas, Clarksburg; public relations, Mrs. H. F. Troutman, Page; special projects and speaker's bureau, Mrs. V. E. Holcombe, Charleston; southern medical, research and romance, Mrs. B. S. Preston, Charleston; exhibits, Mrs. W. D. Fitzhugh, McComas.

Wednesday evening the ladies joined their husbands for the annual convention banquet at the Waldo Hotel and for the Ball at the Stonewall Jackson.

A vote of thanks is extended to the Harrison

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19 West Seventh Street Cincinnati, Ohio

County Auxiliary for their graciousness and hospitality and particularly to Mrs. Page, as general chairman for the convention.

Sufficient credit and appreciation cannot be extended to the Auxiliary for their splendid efforts in getting together and exhibiting doctor's hobbies from all over the state. This was a decided innovation and attracted a great deal of attention from the entire convention attendance. It is hoped that the Auxiliary will continue to take such an active interest in convention exhibits.

JESSIE V. RATCLIFF, *Chairman, Press and Publicity.*

COMMITTEE ON NECROLOGY

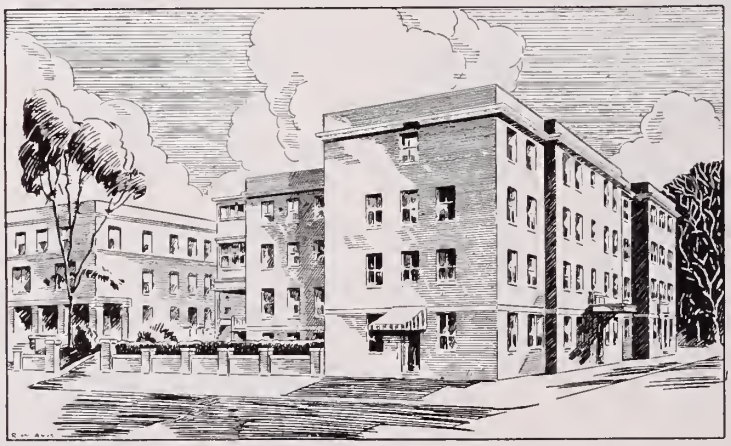
(Continued from page 339)

It is with a great sense of loss and deep regret that we report to the House of Delegates of the West Virginia State Medical Association the following deaths among our members:

Deceased	*Date*
R. H. Edmundson, Morgantown	June 20, 1936
J. E. Daugherty, Elkins	July 16, 1936
C. W. Rexroad, Harrisville	August 4, 1936
A. P. Butt, Sr., Elkins	August 5, 1936
R. B. Easley, Huntington	August 12, 1936
A. R. Warden, Grafton	August 20, 1936
I. B. Johnson, Bayard	October 16, 1936
B. L. Hume, Mallory	November 30, 1936
R. C. Price, Morgantown	December 2, 1936
A. J. Goodwin, Wheeling	December 4, 1936
A. J. Noome, Wheeling	December 4, 1936
F. M. Phillips, Charles Town	December 8, 1936
S. S. Wade, Morgantown	December 2, 1937
John Thames, Charleston	January 10, 1937
Harry Hubbard, Tiltonville, O.	January, 1937
M. L. Dillon, Charleston	January 31, 1937
O. L. Perry, Elkins	February 23, 1937
W. W. Koiner, Beckley	February 25, 1937
Samuel Berardelli, Weirton	March 20, 1937
C. F. Boyers, Morgantown	April 14, 1937
W .W. Harloe, Matoaka	April 16, 1937
W. F. Dailey, Terra Alta	May 12, 1937

WALTER E. VEST, *Chairman.*

McMILLAN HOSPITAL Charleston, W. Va.



Accredited by American College of Surgeons

General Surgery:
W. A. McMillan, M. D., F. A. C. S.
J. Ross Hunter, M. D., F. A. C. S.
I. P. Champe, Jr., M. D.
W. O. McMillan, M. D.

Obstetrics:
U. G. McClure, M. D.

Obstetrics and Gynecology:
F. A. Clark, M. D.

Eye, Ear, Nose and Throat:
V. E. Holcombe, M. D.

Roentgenology:
V. L. Peterson, M. D.

Internal Medicine:
H. L. Robertson, M. D., F. A. C. P.
William C. Stewart, M. D.

Medicine and Pediatrics:
Hugh G. Thompson, M. D.

Orthopedic Surgery:
Randolph L. Anderson, M. D.

Urology:
Thomas G. Reed, M. D.

Pathology:
M. Gillies, M. D.

Resident Physician:
H. W. Ward, M. D.

McMillan Hospital Training School; Sara Hamilton, R. N., Supt. of Nurses; Alma McKay, R. N., Asst. Supt.
Miss Myrtle Mullins, Instructress :::: Winifred McWhirter, Night Supervisor.

COUNTY SOCIETY NEWS

OHIO COUNTY

The regular business meeting of the Ohio County Medical Society was held in the solarium of the Ohio Valley General Hospital on May 21, 1937. Meeting was called to order at 9 p. m. by the president, Dr. Armbrecht. In the absence of Dr. Sheppe, Dr. J. K. Stewart acted as secretary.

Report of Committees: Board of Censors. Dr. Gilmore reported that several doctors had been admitted to the society during the year. He also took up the matter of charging nurses. According to the American Medical Association, medical and surgical fees charged nurses, either student or graduate, if they are working as nurses, is unprofessional. A discussion followed Dr. Gilmore's report. Dr. H. T. Phillips felt that all graduate nurses should be charged at half rates. Dr. Bond brought up the subject of married nurses who are working and who have husbands that are working and wondered why they should not be charged. Dr. Gilmore said that the committee had ruled that nurses should not be charged if working as nurses. It was later suggested by Dr. Armbrecht that the secretary should write the American Medical Association for a ruling on this subject. Dr. Reed felt that a nurse, if she is employed as a nurse, should not be charged but she should be charged if married and not working, but being supported by some one else.

The treasurer's report was read and accepted, together with the report of the auditing committee.

Public Relations Committee: Dr. Reed reported for this committee and explained where all the money from the Department of Public Assistance would be spent. He further stated that beginning April 1, 1937, if the doctor expected to get anything out of these cases, those who required hospitalization should be admitted on free service and attended by the doctors on free service. Outside cases should be attended by the regular physician, who would be paid. This ruling applies only to Ohio county cases. Cases outside the county and sent into the hospital will be on the service of the man whom they are referred to and he will receive a fee according to the schedule.

Social Committee: Dr. McCuskey reported for the Social Committee. June 3, is the date for the annual party. There will be golf at Cedar Rocks,

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starting at noon, dinner at the Jester's Club at six. Non-golfers may go to the Jester's Club any time after six o'clock. The price of the dinner will be $1.50. Dr. Reed moved that the meeting be restricted to doctors only and their dental and medical friends whom they might desire to invite. This motion was seconded by Dr. Trethway and passed.

J. K. STEWART, *Acting Secretary.*

MERCER COUNTY

The Mercer County Medical Society met in the Directors' Room of the Municipal Building at Bluefield, June 18, at 8:15 p. m. The matter of postgraduate work for physicians for the coming summer through the State Department of Health was brought to the attention of the society and it was agreed that the secretary shall communicate with each member of the society regarding this course.

Since our last meeting, Doctors Hoge, Rogers, and Clements were appointed to serve on the board which will take care of our medical participation in public assistance.

Dr. C. H. St. Clair, Jr., presented a paper on "Evipal Anesthetic." It was pointed out that evipal has in a period of years become widely known and rather extensively used as an intravenous anesthetic. It is said to be as safe as any of the anesthetics now in common use. However, it was pointed out that there are certain contraindications which may be generally classified as obstructive to the respiratory tract which must be strictly adhered to. It was found that the fractional method of administration seemed more satisfactory than that based on weight.

Movie films were presented on "Edema." This being the last meeting before our summer vacation, the society adjourned until September.

O. G. KING, *Secretary.*

LOGAN COUNTY

The Logan County Medical Society held its regular meeting on June 16, 1937 at the Aracoma Hotel. There were sixteen members, two visitors and the guest speaker present.

The scientific program was conducted by Dr. W. N. Rowley of Huntington who gave a lantern slide demonstration and talk on "Gonorrhea in the Female." This was very interesting and instructive.

Dr. Otto J. Swisher, the acting health officer for Logan county, gave a short talk on "The Health

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Problems of the County" and asked the cooperation of the society to remedy these. This was freely discussed.

A short report of the State Meeting in Clarksburg was made.

J. L. PATTERSON, *Secretary.*

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on the evening of June 10, 1937. Motion picture films on "Collapse Therapy" and "Ergotocin" featured the scientific program.

The annual banquet and golf tournament of the Cabell Society will be held at the Guyan Country Club on the afternoon and evening of July 8. The tournament will start at one o'clock p. m., and the banquet at seven o'clock p. m. Prizes will be awarded for low net, low gross and blind bogey golf scores.

CHAUNCEY B. WRIGHT, *Secretary.*

KANAWHA COUNTY

The annual business meeting of the Kanawha Medical Society was held at the Daniel Boone Hotel, Charleston, on the evening of June 8. A number of business matters of importance to the society were discussed, including the report of the delegates to the state meeting at Clarksburg. No scientific program was presented.

CLAUDE B. SMITH, *Secretary.*

MONONGALIA COUNTY

The Monongalia County Medical Society was host to the Tri-County Medical Society (Monongalia, Harrison and Marion counties) at the regular meeting on the of May 7, 1937. The banquet and meeting was held at the Morgantown country club with Dr. C. B. Pride, president of the Monongalia Society, presiding.

The guest speaker of the evening was Dr. Claude S. Beck, Cleveland surgeon. He spoke of the growing frequency of automobile accidents and called attention to a serious type of heart injury previously overlooked by many doctors and calling for careful diagnostic attention. The condition was described as "steering wheel" heart. He also talked on the surgical treatment of angina pectoris.

Dr. A. B. Collins, Blacksville, and Dr. Rex A. Burdette, Morgantown, will be the essayists at the meeting of the Monongalia Society on June 1, which will be preceded by a six o'clock dinner at

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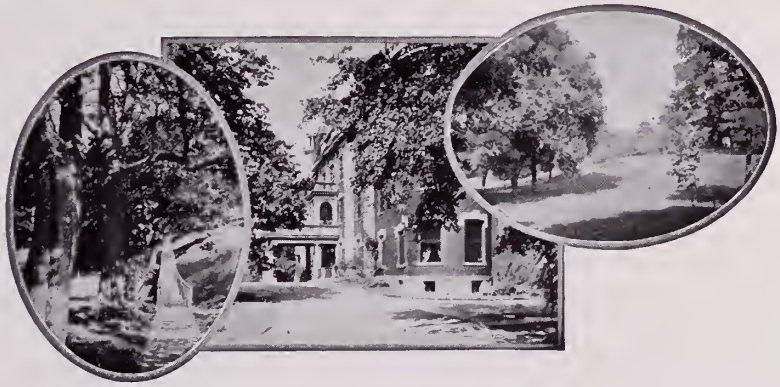

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the Morgantown Country Club. Dr. Collins will speak on "Organized Medicine versus Quackery" and Dr. Burdette on "Lower or Basal Lobe Tuberculosis."

G. R. MAXWELL, *Secretary*.

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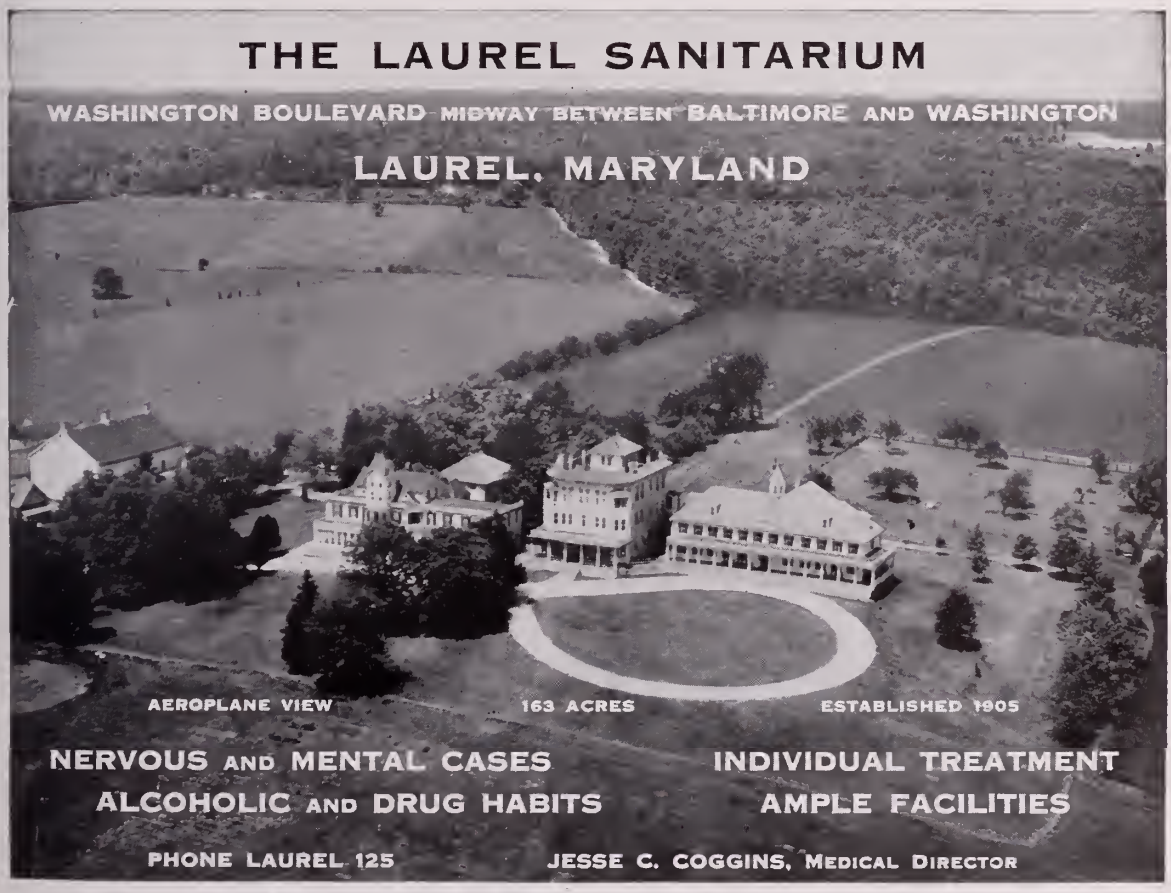

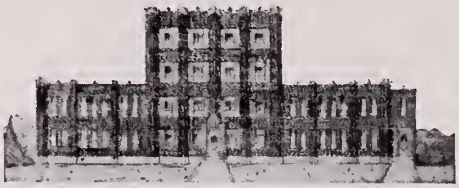

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PAIN IN ABDOMINAL CRISIS*

By B. H. Swint, M .D.
Charleston, W. Va.

From the history of the very beginning of medical science we learn that the alleviation of pain has been the aim and function of those who practice the healing art. However, it must not be forgotten that this unpleasant sensation is often the patient's best friend, this being notably the case in abdominal pain. Nature has provided this warning signal, which, if properly interpreted, will aid in the protection of the individual from injury occurring within the abdominal cavity in the same manner as it does in external injury. Abdominal pain is a message from an injured peritoneum, carrying volumes of information. If heeded and understood it is invaluable in making an early diagnosis, and in early diagnosis and treatment of the acute surgical abdomen lies our one chance of reducing the all too high mortality rate.

In practically every abdominal emergency pain is not only the outstanding symptom but also the first. A careful study of the onset, location and character of this important initial symptom will, in a large percentage of cases, lead to a proper diagnosis long before the so-called classical symptomatology appears. The writer believes that most of us have been taught to look for the text-book presentation of signs and symptoms, confirming these with laboratory procedures before definitely deciding on operation in acute abdominal conditions. In so doing, I fear that we often miss the gratifying results of early treatment. Laparotomy performed on snap judgment is certainly not advocated, but it is felt that often an unnecessarily long period of time elapses between the initial examination and decision for surgical interference. It is the reduction of this time interval that is so essential to the welfare of the patient.

The object of this paper is to discuss the symptom of pain in the more severe acute abdominal conditions, with the purpose of utilizing this symptom fully in arriving at an early diagnosis and establishing early treatment.

*Oration on Surgery delivered before the Seventieth Annual Session of the West Virginia State Medical Association, Clarksburg, W. Va., May 26, 1937.

We must consider two distinct types of pain, both of which are important in the proper interpretation of pathological conditions occurring within the abdominal cavity; first, local pain felt at the site of the involved viscus and caused by local irritation; secondly, referred pain, manifest in a location distant from the involved organ and mediated by an association of nerve pathways. Accompanying both types of pain are local tenderness and occasionally hyperesthesia. Of these phenomena, local pain and tenderness give us our most valuable information.

The greatest care should be exercised in obtaining a careful history of the onset of pain, since mode of onset frequently aids considerably in locating the organ involved. In inflammation the pain comes on slowly, gradually becoming more severe and accompanied by tenderness at the site of the lesion, for example, cholecystitis; in obstruction it is severe, colicky, and intermittent in character usually located over the point of obstruction and quite often referred elsewhere, for example, renal colic; in perforation the pain is sudden and unexpected and of a severe, burning character, for example, perforation of a gastric ulcer.

Referred pain, the second in our classification, has until recently been a confusing factor in diagnosis. The recent studies of Livingston and others in viscerogenic reflexes and association nerve pathways have proven that what appears to be a rather chaotic array of pains and points of tenderness is in reality an orderly response to irritative stimulation of the viscera. If carefully analyzed these referred pains are found to be of such constancy that they are of material value in the identification of the inflammed or injured viscus.

In order to appreciate the full meaning of pain as a symptom it is necessary to understand factors or conditions which modify its character. Different individuals present a wide range of reaction to pain. A dull ache to one may be a severe sharp pain to another and for this reason skill and perseverence must be exercised in properly evaluating that which the patient describes as a pain, an ache or a tender spot. Extrinsic factors, such as sedative drugs or alcohol in sufficient quantities will lessen the patient's pain perception, diminish his reactions and materially alter the clinical picture. The necessity of ascertaining the kind and amount of drugs given for the relief of pain is imperative as well as withholding such medication, if not already given, until a diagnosis is made.

Briefly, pain as a symptom should be investigated from the standpoint of its mode of onset, character, location, intensity, periodicity and the relationship to food or vomiting. The mode of onset may differentiate the agonizing sudden pain of perforated ulcer from the dull, increasingly severe ache of cholecystitis. The site of the pain often points directly to the involved viscus especially if tenderness is also present. Accompanying referred pain, if present at all, is constant and points unerringly to the origin of visceral irritation. Periodicity and relationship to food or vomiting aid in identifying the organ involved.

To facilitate the discussion of acute abdominal conditions from the standpoint of pain we may consider them etiologically on the basis of their underlying pathology: (1) inflammations, (2) perforations, (3) obstructions.

Under inflammations we may consider: (a) appendicitis, (b) cholecystitis, (c) acute pancreatitis, and (d) acute salpingitis. In acute appendicitis the first indication of visceral inflammation is referred pain, colicky in character, often sharp, and as a rule referred to the epigastrium or the umbilical region although the patient may state that the "cramps" are general throughout the abdomen. This pain is not intermittent nor does it subside after an hour or so as in simple gas colic; it persists and generally becomes localized in the right lower quadrant. As inflammation of the appendix increases, local tenderness develops which is soon followed by protective rigidity of the overlying ab-

dominal musculature. The local tenderness follows the initial pain closely and, it is to be noted, well in advance of the general symptoms of vomiting, fever, and leukocytosis. With these symptoms of local pain, tenderness and hyperesthesia, a diagnosis can be made without awaiting the general symptoms which may ordinarily follow.

Clinically the patient lies with the thigh flexed on the abdomen to lessen the pressure on the inflammed appendix. Digital pressure at McBurney's point elicits tenderness. Rebound pain (Blumberg's Sign) is often present, namely, pain in the region of appendix following the sudden release of deep abdominal pressure either over the appendix or applied on the opposite side. Often there is a positive Meltzer's sign; in this the finger is pressed deeply over the site of the appendix and the patient requested to flex the thigh on the body with the knee extended. Pain occurs because of the pressure on the diseased appendix, caught between the taut psoas muscles and the examiner's finger. Skin hyperesthesia in a triangular area bounded by a line connecting the highest point of the right iliac crest, the right pubic spine, and the umbilicus and back to crest of ilium was found to be present in 85 per cent of a large series of cases of acute appendicitis examined by Livingston. In this test the skin is sharply pinched and slightly twisted, the point of maximum tenderness falling at the center of the above triangle and never extending beyond its borders.

With the diagnosis of acute appendicitis made, there should be no hesitancy in advising surgical interference.

Acute cholecystitis, second in the classification of inflammations, is caused by bacterial invasion of the gall-bladder. Initially there is a mild ache under the right costal margin, which rapidly develops into excruciating, breath-taking pain. The patient feels that he is in the grip of a vise. Vomiting and a rapid rise in temperature follows. The associated referred pain in the right shoulder and scapular region is of such constancy that it is a definite and valuable diagnostic point, helping to differentiate acute cholecystitis from other acute abdominal emergencies. A careful history will disclose previous attacks of a similar character and possibly chronic indigestion, gas eructation, or pressure symptoms following meals. Digital pressure directly over the gall-bladder will cause severe pain especially if the pressure is maintained and the patient breathes deeply. Frequently deep breathing alone without pressure will produce discomfort and tenderness. If the patient is turned on the right side there will be increased pain due to the pressure of the other abdominal viscera on the inflammed gall-bladder. Pain and tenderness alone should enable one to make the diagnosis although age and sex should be considered since cholecystitis generally occurs in the middle years and is most frequent in females.

Acute pancreatitis is the least frequent of the acute abdominal emergencies, occurring in less than one per cent of general cases and carrying an 80 per cent mortality. Here the pain is agonizing, limited to the epigastrium and sometimes referred to the left scapula or between the scapulae. In this condition the cardinal diagnosic point is the extreme local tenderness, and not the pain, with an exceedingly sensitive spot just above and to the right of the umbilicus. The onset is sudden, there is copious vomiting, and shock. Jaundice may be present. Dyspnea with cyanosis is peculiarly characteristic of this condition and is a differential point.

The pain of acute salpingitis may be sudden in onset and of great severity. However, it can hardly be classed as an abdominal crisis and the diagnosis should be obvious if a careful history is taken and a pelvic examination done.

In the group of perforations we may consider: (a) perforated gastric or duodenal ulcer, (b) perforated typhoid ulceration, (c) ruptured ectopic gestation, and (d) trauma.

Perforation of a gastric or duodenal ulcer is characterized by a sudden, unheralded onset of agonizing pain of a burning character,

occurring during a period of activity rather than rest. The pain is constant with no intervals of relief and the protective rigidity of the abdominal muscles, especially the rectus abdominis, is present from onset and is most pronounced. Frequently, within a short interval after onset, the patient states that this intense pain passes slowly down to the right side of the abdomen, as if a burning liquid were slowly trickling downward to the iliac region. The abdomen is scaphoid, the rigidity of the muscles boardlike, and the usual abdominal respiratory excursions not perceptible. The patient lies flat in a fixed statue-like attitude, and the facial expression is anxious. He objects to any change in position which requires voluntary muscular effort.

The intensity of the local pain is so marked that the patient rarely mentions referred pain although it may be present in the back between the scapulae. As peritonitis progresses, abdominal tenderness develops. Percussion over the right costal margin often discloses obliteration of normal liver dullness. Eliason maintains that if the history of an ulcer patient is carefully examined, warning of impending perforation can be found. He states: ". . . if we recall that when ulcer symptoms change, the pathology changes—in other words during the ulceration stage, limited to the mucosa and submucosa, the patient has the ulcer triad of food ease, hunger pain, and periodicity of attacks. When food no longer stops the pain, when the pain becomes constant, changes to that of a pinching or sticking character and is associated with referred pain, the peritoneum has become involved and perforation threatens." Perforation of a gastric or duodenal ulcer is one abdominal crisis in which the pain symptom is so outstanding that there should be no difficulty in making a diagnosis. If the picture of the anxious expression, scaphoid fixed abdomen and frozen attitude is remembered, the diagnosis should be easy and operation considered immediately since the mortality is in direct ratio to the time elapsed between perforation and operation.

With almost universal typhoid immunization and the rapid advances in preventative medicine in this country, the incidence of perforation of typhoid ulcer is extremely low. However, it does occur. Usually in the third week of disease the patient will complain of a sudden onset of unexpected severe sharp pain, paroxysmal in character and located in the hypogastrium and to the right of the midline. Tenderness in the right iliac region, muscle rigidity and a sudden fall in temperature, together with the obliteration of liver dullness, indicate the diagnosis. The surgeon should theoretically not be concerned with the treatment of typhoid ulcer perforation as it should be prevented by well organized immunization programs. However, when it does occur in the typhoid patient, the treatment is immediate surgery.

Ruptured ectopic gestation, a rather treacherous type of abdominal crisis, may strike insidiously or suddenly, the latter often proving rapidly fatal. In most cases there is a definite history of a missed menstrual period followed in ten days to two weeks by irregular vaginal bleeding accompanied by crampy bearing-down pains. The condition gradually becomes worse, until the seriousness of the case is no longer in doubt and surgical interference is definitely indicated. In some cases there is sudden onset of intense, intermittent lower abdominal pain involving the hypogastrium and one or the other iliac regions. This pain may be referred to the back and down the thighs and is associated with fainting, nausea, occasional vomiting, shock and collapse, together with symptoms of internal hemorrhage. Temperature may be normal or subnormal and pronounced leukocytosis (up to thirty thousand) is not unusual. Bimanual pelvic examination will disclose marked tenderness usually more pronounced on the side where rupture has occurred. With a history of disturbed menstrual cycle, slight vaginal bleeding, severe pain in the lower abdomen and a normal or subnormal temperature with marked leukocytosis and symptoms of intra-abdominal bleeding the diagnosis should be

made and surgical treatment instituted before vascular collapse occurs.

Trauma involving the peritoneal cavity is mentioned only in passing since a history of the injury and appearance of the wound are the principal points in determining the treatment. Pain is not the important diagnostic factor.

The third group of etiological agents in pain of the acute abdomen are the obstructive lesions. Under these we have: (a) renal colic, (b) gallstone colic, (c) acute obstruction of the bowel, (d) torsion.

In renal colic the pain is intense, colicky in character, and has its origin at either costal margin. It moves gradually downward in the abdomen as the attack progresses. While there is no complete spontaneous relief from the pain during an attack, some of the painful spasms are less severe than others. The patient is restless, moving about the room and not infrequently bending forward with manual pressure applied over the abdomen. The abdominal rigidity is not marked and tenderness is absent, at least during the attack or until it has subsided. Temperature and leukocyte count are normal. Referred pain is characteristic, extending downward to the groin, genitals and thighs. The presence of red blood cells in the urine confirms the diagnosis.

The pain of gallstone colic is sudden in onset, sharp, intermittent and constricting and is localized in the right upper quadrant of the abdomen. The patient is restless and thrashing about on the bed. The pain is definitely in the gall-bladder region and is referred to the right shoulder blade. Tenderness on pressure over the organ develops early since there is generally inflammation present where there are stones. This soreness increases with the attack and usually remains after the colic has subsided. An attack usually follows dietary indiscretion and vomiting quickly follows pain. After the stomach is empty, uncontrollable retching continues with the production of small quantities of bile. Clinical history will reveal repeated attacks of epigastric distress, fullness and belching of gas, especially noteworthy after partaking of heavy foods. Jaundice is present only when the stone obstructs the common bile duct. Attacks of biliary colic are prone to recur with increasing frequency. The x-ray and Graham test are of value only in determining the functional integrity of the gall-bladder.

The pain of acute obstruction of the bowel is wave-like and colicky, severe and accompanied by visible hyperperistalsis and vomiting. The pain persists even after the administration of large doses of sedatives. There is little accompanying rigidity, moderate diffuse tenderness and there may or may not be constipation. The picture presented clinically varies considerably. This is but natural since a great deal depends on whether the obstruction is high or low in the gut. In acute obstruction of the small bowel the pain begins suddenly and is rhythmical and colicky. Rigidity is not marked and constipation does not immediately follow by reason of the location of obstruction. Vomiting is early and persistent. The short length of the small bowel prevents general abdominal distension. In this type of obstruction the x-ray is invaluable in identifying fluid levels and distended loops of bowel.

Statistics in the larger hospitals show a 50 per cent mortality rate in small bowel obstruction. In strangulated hernia, however, with small bowel obstruction, where the presence of a hernia leads to earlier diagnosis, the mortality rate is only six per cent. It is quite obvious, therefore, that the mortality varies directly with the promptness of diagnosis and operation following onset of symptoms. At the onset of bowel obstruction there is no prostration and if the appalling mortality rate is to be lowered the surgeon must operate early on the basis of a diagnosis made on colicky pain, vomiting and hyperperistalsis unrelieved by general sedation. To wait for the sunken eyes, anxious expression, rapid weak pulse, dark foul vomitus, cold moist skin and obstipation is to extend

to the patient small chance of recovery. In obstruction of the large bowel, on the other hand, the cardinal points are those of early constipation, marked distension and less vomiting. One must not be mislead by the clinical improvement following the use of the indwelling duodenal tube and intravenous fluids. Although the patient may feel better, neither of these methods relieve an obstructed bowel.

The torsion of the pedicle of an ovarian cyst is the most frequently encountered torsion phenomenon in abdominal emergencies. As is the case in most crises the pain is sharp and intermittent chiefly in the hypogastrium and right or left iliac regions. Vomiting and shock may be present. The pain is not referred and tenderness soon develops at the site of the lesion. Rigidity is usually absent. The finding of a smooth, fairly mobile mass at the site of tenderness should make the diagnosis.

In summation it may be said that these conclusions can be made:

1. The mortality rate in acute abdominal crises remains high despite improved surgical technique.

2. There seems to be no hope of reduction of this rate except by early diagnosis and surgical treatment.

3. Pain is an outstanding early symptom. This pain and tenderness in each of the acute abdominal conditions reviewed, has characteristics definite enough to be the basis of a positive diagnosis in the majority of cases.

4. In the understanding of pain and its proper interpretation, the surgeon has at his disposal an instrument of diagnosis which will contribute much to the patient's chances for recovery.

REFERENCES

Livingston, Edward M.: *A Clinical Study of the Abdomen and Its Contents.* The Paul B. Hoeber Co.

Kirby, F. J.: *Early Recognition of Acute Abdominal Diseases.* Southern Medical Journal, June, 1930.

Romains, W. H. C.: The Practitioner; 130:261, (March, 1933).

Jacobs, Minard F.: *Mimics of Gastrointestinal Disease.* Journal Oklahoma State Med. Association, 29-351, (October), 1936.

Knight, Ralph T.: *The Acute Abdomen.* Minnesota Medicine, 14: 643-647 (July), 1931.

Graham, Roscoe R.: *Surgical Emergencies in General Practice.* Canadian Medical Association Journal; 34: 36, (January), 1936.

Haggard, William D.: *Lesions of the Right Upper Quadrant.* Virginia Medical Monthly, 63:589 (January) 1937.

Eliason, Eldridge L.: American Journal Surgery; 31: 275, (February), 1936.

Staley, J. Stuart: *Acute Abdominal Emergencies, Some Diagnostic and Therapeutic Considerations.* Virginia Medical Monthly, 63:296 (August), 1936.

CAMP VACATIONS

A summer at camp for your child will almost inevitably develop a spirit of self reliance, resourcefulness and courage, and children who formerly did not know the meaning of the word "cooperate" soon become good citizens in this group environment. Regina J. Woody contributes this advice in her article "Off to Camp" in the July *Hygeia.*

The preliminary physical examination should not be rushed through or evaded, for it is an excellent beginning to a summer of activity and health. It determines what athletics a child may indulge in safely, and it may even locate important disorders before they become serious. It can also prevent the whole camp from coming down with mumps or whooping cough.

If you want to be the perfect parent from the camp director's point of view consider the following points carefully: Be cheerful when you say good-by, appreciative when you're shown around camp and hopeful of good things from the future. Don't send money, candy or sentimentally sobby letters, and don't telephone unless there is an emergency.

Your letters can make or mar your child's summer. Write briefly, not too often and as simply as possible. Make light of trouble, and give much of the family and neighborhood news. Don't stress the wonderful times you are giving brother or sister unless you want a letter by return mail begging for permission to come home. Be sure to give bulletins of your child's pet.

Don't belittle a single item, either of discipline, location or equipment. To the child, getting ready for his summer at camp is exciting and important. Be enthusiastic, practical and interested, and rest assured that camp will send you back a well adjusted, healthy, happy child.

SYPHILIS VERSUS HEALTH*

By DR. THOS. PARRAN
Surgeon General, United States Public Health Service

WEST Virginia has declared war on syphilis —as, indeed, have most of the other states of the Union. It is a war into which we can enter with full confidence that the wisdom of waging it will never be debated by future historians. Social and medical historians will concern themselves only with the effectiveness of its strategy.

Fortunately the analysis upon which the strategy of the war on syphilis must be based is a very thorough one. Science has provided us with the weapons. We know the cause of syphilis. We know how syphilis spreads; and last but most important, we know the cure for syphilis. The techniques of successful public health control of syphilis have been studied with care. Funds will be here. Public support is here.

Our knowledge, efficiently applied, cannot fail in our conquest of syphilis, the King of Killers. There will be required the earnest and complete cooperation of public, physician, and health officer.

This is the problem of syphilis in the United States as a whole. One in every ten adults has, has had, or will acquire syphilis unless the rate declines. There are over 500,000 new cases acquired each year who report to physicians for observation and treatment. There is at least another half-million new cases each year who seek treatment from quacks, drug clerks and other unauthorized sources of treatment. Finally, there are approximately 683,000 cases of spyhilis under observation and treatment at all times.

Compare that estimate of 500,000 new cases each year with the number of new cases of the other contagious diseases. There is one and one-half times as much syphilis as tuberculosis; syphilis is twice as common as scarlet fever, thirteen times more so than diphtheria, twenty-eight times more than typhoid fever and one hundred times more frequent than infantile paralysis. Yet it has been only during the past year that we have been able to mention syphilis in public.

Syphilis strikes the young. It is acquired mainly between the ages of 16 and 30. One-fifth of all of it is acquired before the age of 20. Further, amazing as it may seem, there are over 11,000 cases of syphilis acquired each year in children between the ages of 11 and 15, and here is the greatest tragedy of all—at least 40,000 babies are born each year with the disease. This emphasizes the fact that education concerning venereal diseases, to be effective, must be begun early, preferably in the grade school, and certainly by the first year of high school.

Syphilis is a very common cause of heart disease. It is responsible for from 10 to 12 per cent of all cases. The deaths from this cause number 40,000 annually. This means, further, that the life of each one of these persons has been cut short 20 years. This loss of twenty years could have been prevented by early and adequate treatment of the infection.

The expectant mother can transmit syphilis to the unborn child. In a large series of pregnant women studied, it was found that four per cent of the white women and 18 per cent of the colored women had syphilis. A syphilitic mother, untreated, has but one chance in ten to deliver a living child, free of syphilis. But if this same mother is given ten injections each of an arsenical compound and ten of bismuth, beginning before the fifth month of pregnancy, she will have nine chances in

*Presented before the Seventieth Annual Meeting of the West Virginia State Medical Association, Clarksburg, May 26.

ten of delivering a well baby, free of syphilis. There can be no excuse for the birth of syphilitic children. Every pregnancy means a Wassermann test. Every pregnant mother must be taught to visit her physician at the first sign or suspicion of pregnancy and have a blood test taken. Twenty-five thousand babies die each year from syphilis before they reach their first birthday. This can be prevented. *Every child has the right to be born healthy, free from physical handicaps.* Let me reiterate, take a blood test on every pregnant woman. Begin treatment at once if she is found to have syphilis.

Syphilitic abortions, miscarriages, stillbirths, and congenital syphilitics can be prevented. Infant mortality due to syphilis has decreased 40 per cent between 1921 and 1933 demonstrating the effect of the routine Wassermann and prompt treatment.

That is the problem of syphilis in the United States. What is the problem in West Virginia?

You are, no doubt, familiar with the intensive surveys conducted by the Public Health Service to determine the prevalence of syphilis in the United States. Selected communities, rural and urban, provided a cross-section of information which could then be projected to estimate the incidence of the disease for the population as a whole.

Five communities of West Virginia were included in that survey — Huntington, Wheeling, Charleston, Logan County and Greenbrier County. Based on the data from those communities, the Service estimated 22,852 cases of early syphilis; each year for West Virginia another 12,378 cases more than one year old reported for treatment.

Four-fifths of these 35,230 cases of syphilis were treated by private physicians; one-fifth by one of West Virginia's 27 public clinics. But it must be remembered that for every case which reported to either of these sources for proper medical treatment another case failed to take treatment at all or dosed with useless drug store compounds or accepted the ministration of quacks.

Less than half the cases of early syphilis report for treatment. But the proportion of cases which physicians report to the health department is even smaller—so deeply has the secrecy and taboo penetrated even our own profession in its dealings with syphilis. For West Virginia our survey showed 35,230 cases under treatment. For the year ending June 30, 1936 the State Health Department received reports of 2,675 cases! One case was reported out of every twenty-five or thirty if one counts in the infected persons who did not appear for treatment.

Accurate knowledge of the problem must be the basis of the control program. The privacy of the professional relationship must be maintained for the patient. But there is nothing in professional privacy which requires the withholding of ordinary communicable disease reports. I might add that this failure of reporting is not confined to West Virginia; in greater or less degree it is a common American phenomenon.

West Virginia has made a determined beginning in the handling of these problems. A venereal disease control officer has been provided. Its state law requires reporting by name, address and age of all cases of syphilis, gonorrhea and chancroid. Control reports for keeping check of the cases have been arranged by the state authorities.

The state department has adopted the policy of establishing treatment clinics in all full-time county health departments and in cities requesting such service. These clinics are supplemented by provisions for aid to physicians and free antisyphilitic drugs for the care of indigent patients.

As the work progresses a larger number of cases will go both to private physicians and public clinics. With proper follow-up work by the health authorities a larger proportion of cases will continue treatment until cured. As more and more of the indigent carriers of infection are reached, the proportion which will go to public clinics will be greater by the very mathematical process of adding current untreated cases to the publicly treated group.

The arrangements for handling these problems are being developed, I hope, in close cooperation with the county medical societies. Whatever their extent, this must be borne in mind: The means for attacking the problem which must prevail are those which will find the largest number of cases of syphilis, which will bring the greatest proportion of cases to treatment, and which will keep them there until they are no longer a danger to the health of the community.

I have said that we have a cure for syphilis. Eight out of ten persons can be cured if treatment is begun during the first year of infection. The percentage of cures decreases as the duration of infection increases. But even in the later stages of syphilis, where cure is more difficult, the progress of the disease can be stopped and many of the crippling manifestations such as heart disease and insanity prevented.

The early case is the infectious case. Treatment in the early stage does two things, it renders the individual non-infectious and if continued long enough it will cure him of his disease. By early syphilis, I refer to an infection of four years or less duration.

Treatment of early syphilis has been standardized. Every patient, to obtain a cure, must receive 30 injections of an arsenical compound and 40 of bismuth. This treatment must be given in a continuous manner, week after week, with no rest periods. This means 70 weeks of continuous therapy. Let me emphasize this next statement—treat by schedule and not by serologic reports. Laboratory science must not be used as a guide to treatment. In the majority of early cases, tests will revert to negative after the first six injections. One final point, before the discharge of a patient as cured, is that it is vitally important to examine the spinal fluid. Many cases of asymptomatic neurosyphilis will be found, which, when treated promptly, will prevent the serious disabilities of more advanced central nervous system syphilis.

The private physician plays the most important rôle in the control of syphilis as well as in all health. Public health relies on medical science. The physician commands public confidence. The physician knows the community health needs more intimately than anyone else. What is his part in the control of syphilis? What is his responsibility?

He must have a high index of suspicion. He should use the diagnostic aids available, namely, the dark field and the Wassermann to supplement clinical findings. The *diagnosis of primary syphilis is a laboratory procedure.* Free laboratory service provided by the State Health Department should make the Wassermann test a more frequently used diagnostic aid. It is the physician's duty to have a knowledge of the accepted forms of treatment and be able to use this knowledge skillfully.

The physician-patient relationship is his responsibility. It is necessary that the patient be told exactly what his trouble is, the seriousness of it, the necessity for seventy weeks of continuous treatment and the dangers of intermissions in treatment. Whether or not a patient with syphilis remains under treatment for the entire schedule depends in a large measure upon the influence of the doctor.

The physician has another very important responsibility—in this case, to the community. He should obtain the source of the infection and all exposed contacts. These must be brought in, if necessary, with the aid of the local health department. They must be examined and treated when found infected.

Another important function is the reporting of infectious cases who have lapsed from treatment with the end result of returning them for further treatment until they are at least rendered non-infectious. We would not want a leper loose in our community or a case of smallpox. For the same reasons, it is our duty to the health of the community to keep these infectious cases of syphilis under treatment and report them when they fail to return to the physician's office. They are menaces to health; they are dangerous citizens if they are not under treatment.

As an aid to physicians, we have urged

state health department to make available free laboratory service, including both the direct and the delayed darkfield, a serologic test for syphilis and the examination of gonococcal smears. We have suggested that antisyphilitic drugs be distributed to physicians, free of charge, for all patients, regardless of social and economic status. We have further recommended that case finding and case holding service be supplied by state and local health authorities to find sources of infection and contacts and to return lapsed infectious cases to the physician. In return, the physician should cooperate with local health authorities, particularly with reference to reporting cases and contacts.

It will pay a state to provide such services. In large measure, public health can be purchased. Every case of syphilis adequately treated means one infectious person removed from the community, one less syphilitic heart disease, one less mother to suffer from miscarriages or to bear syphilitic children, one less syphilitic insane.

The necessity of early diagnosis and treatment make it mandatory that adequate diagnostic and treatment facilities be provided. In urban areas, venereal disease clinics are a vital need. This clinic service should be available for (a) any patient unable to afford private medical care; (b) any patient referred by a private physician either for continued treatment or consultative advice and (c) the diagnosis and emergency treatment of any patient who applies.

In the United States for 1936 there were approximately 1,000 venereal disease clinics. This number has increased considerably during the last few months. West Virginia has 27 clinics reporting venereal diseases at the present time. Emphasis must be placed not only on more clinics but on the improvement of existing ones. Improvement of existing clinics means trained personnel capable of understanding appraisal of the cases with which they deal, not simply routine "shot stations." It means careful epidemiologic work which brings to the clinics the early and highly infectious cases most important to the health officer, the weeding out of old cases which have passed from the position of patients to the rôle of clinic habitues.

In the Scandinavian countries where syphilis has been controlled the major emphasis has been placed on the provision of free and adequate clinic facilities plus case finding. In Great Britain emphasis has been placed on free and adequate clinic facilities. Every country which has effectively controlled venereal disease has placed a major emphasis on freely available treatment.

Venereal clinics are impracticable in some sparsely settled areas. The care of indigent patients in such communities may be provided by the private physician through assistance given by public funds.

Wisconsin has had an effective control program for twenty years. They have found that it paid them in dollars and cents as well as providing efficient citizens mentally and physically sound. Further, in 1916, 12 per cent of the admissions to insane institutions were due to syphilis, whereas, in 1936, only five per cent were syphilitic. That means just that many less insane to feed and take care of year after year.

In 1928 there were 85 cases of paresis and cerebral syphilis first admitted to West Virginia state institutions for the insane. In 1934 there were 141 cases. It would have been cheaper for the state to have treated those patients earlier.

The United States Public Health Service has been given authority, under the Social Security Act, to allocate funds to state health departments for assistance in all health activities. It is hoped that part of these funds will be used, not to relieve but to supplement existing appropriations for the expansion and development of venereal disease control activities.

The private physician should benefit from these funds. He should not be expected to contribute as he has done in the past, his time, experience and money for drugs to treat indigent patients with syphilis. It is expected

that free laboratory service and the distribution of free antisyphilitic drugs will be an initial step to relieve him of his present financial burden.

The West Virginia State Medical Association is cooperating splendidly in this campaign, and has appointed committees for the purpose of working out a sound local program.

In conclusion, I want to emphasize that any successful effort to control a disease so widespread in the population as is syphilis must stem from the interest in its control and the medical competency of the communities themselves. I would suggest that the first thing for a state to do is to define its own problem. Rarely can our forces be used efficiently against the unknown.

First, how much syphilis is there in West Virginia—actually, not nominally—and in each community? That implies a careful examination of the inclusiveness of your reporting and the accuracy of the medical tests which are the bases for it.

Second, what about your facilities for treating it? Do the private practitioners use standard methods? Do they hold patients until non-infectious? Upon what level of scientific performance are your clinic services standardized? Is treatment available for everybody, indigent and low income groups alike? What are doctors and hospitals doing to prevent congenital syphilis?

The next step measures the depth of your concern about syphilis as a test problem; are you content to treat syphilis as it spreads or do you prefer to check its spread by the application of epidemiological principles—trace out the source and contracts of each case and render them harmless? If the facilities for treatment are not here, are you willing to use your tremendous potential influence to see that they are provided?

And finally, are you aware that any plan of education must be triple-bladed?

Not only must the people be educated to use and to appreciate good medical service for the cure of syphilis but all doctors must be educated to know what is the best service and how to give it. Public health officers must be educated to give you, the doctors, full and intelligent cooperation in finding cases, tracing contacts, and holding the non-cooperative patient in line.

It is becoming increasingly apparent that although we must use American methods in working it out, we shall never be completely successful in eradicating syphilis as a public health menace until we apply in our own way and to our own problem, the basic Scandinavian principle: That it is the responsibility of the state to make treatment readily available for every syphilis patient in every walk of life; but it is equally the responsibility of the patient to take treatment.

When private physicians and public health officers do their part, the people learn quickly that the cooperative patient with syphilis can be treated with greater consideration than the patient with scarlet fever. His personal relationship with the doctor is preserved, and his privacy is not invaded. The uncooperative patient, however, loses the privilege of privacy. For successful control of syphilis in this or other states, it must be understood that the spreader of syphilis, whether willful or ignorant, is guilty of a high crime against society.

A first step against syphilis has been taken in that we are no longer afraid to talk about it. Soon we shall begin to count it accurately and to write it on death certificates, and if physicians, health officers, and public-spirited citizens learn how to pull together in a three-horse team, we shall have no difficulty in West Virginia in carrying out the cardinal principles of syphilis control; find cases; treat cases; teach the profession and layman alike to do the best job possible.

CHILD'S FIRST TEETH

In order to have a healthy and attractive set of permanent teeth good care must be given the first or temporary set, Jessie Whichard McKoy says in "How to Avoid Crooked Teeth," which appears in the July *Hygeia*.

DIAGNOSTIC SUGGESTIONS IN GYNECOLOGY*

By W. MERLE WARMAN, M. D.
Morgantown, West Virginia

ONE evening shortly after we had started our interneship, my room mate remarked to me, "this game of medicine is easy—all you have to have is a good book telling how to treat these patients." He had just finished copying some orders from his notebook into the order chart in the ward, and, evidently, it did seem rather simple to him. On examining a little further the cause for his statement it was easy to see what had brought it about. Most of the patients were admitted to the hospital with the diagnosis already made either by the admitting officer, the resident on that service, or the visiting staff member; however, the farther along we went in that year's service the more difficult we found medicine to be. The difficulty arose in determining what treatment to give, and what disease to treat, and that, I feel, is our big field, namely; the one of diagnosis. The numerous parasitic bodies such as the various cultists, chiropractors, osteopaths, and other groups who capitalize on a bare smattering of medicine which they have picked up from questionable sources, are able to treat patients almost as well, and, in some cases even better, than we are. Their methods of therapy unquestionably put ours in the shade in many cases, but their great handicap is in determining what to treat. As I stated before, I feel that diagnosis is the field in which we will be safe from competition by our "quackish" friends.

With this in mind I wish then to bring some diagnostic suggestions before you especially as relates to gynecology. I have divided these suggestions into three sections, namely; history, physical examination, and laboratory.

History: I feel that if a few generalities can be kept in mind they will tend to make important points in the history more significant. Medicine is full of aphorisms and Dr. Walker, Professor of Gynecology at the University of Indiana, has made the following summations:

1. All genital tract lesions may be considered under four headings:
   a. Injuries.
   b. Infections.
   c. Neoplasms.
   d. Endocrine disorders.
2. Metrorrhagia is of more grave clinical significance than menorrhagia.
3. The uterine cervix is the most frequently traumatized, the most commonly infected, and the most frequent site of carcinoma of any structure of the body.
4. Gynecological cardinal signs are: discharge, bleeding, and pain.
5. When a woman with established menopause shows genital tract bleeding malignancy can be claimed in three times out of four—an emergency exists.
6. In uterine cancer the more difficult the diagnosis, the better the prognosis.
7. Malignancy's most formidable foe is early diagnosis.
8. All can be done with radiation that can be done with surgery, in genital malignancy, and it is much easier for the patient.

Examination: Here as in other fields, a meticulous physical examination ranks supreme as a means of determining the presence and type of ailment. A complete physical examination should be made in every case, and, of course, this should be augmented by a painstaking pelvic examination. In most gynecological cases the bimanual examination is the most important single means of arriv-

*Read before the Monongalia Hospital Staff meeting, April, 1937.

ing at a correct diagnosis. The technical steps of the pelvic investigation should be carried out in a systematic manner. Every component part of the reproductive canal beginning with the vulva, the vagina, the cervix, the Fallopian tubes, the uterine body, the ovaries, the broad ligaments and pelvic peritoneum should be examined. During the examination the eye should be figuratively transferred to the tip of the examining finger. The examination should never be prolonged, neither should it be hurried. Usually a single minute will suffice to make a satisfactory pelvic investigation. A long drawn out manipulation usually implies the examiner does not know where he is going. The investigation should be conducted in the most delicate manner, and without causing the patient the slightest embarrassment, discomfort or distress. The patient's heels should be on a level with her back, and she should not be drawn down so far on the examining table that her thighs will be flexed on her abdomen as this will tend to throw the uterus posteriorly, and distort the normal pelvic picture.

In a number of cases, particularly where decensus is suggested, examination in the standing position is advisable. When inspection is begun a bivalve speculum with a section of cigarette drain, about two and one-half inches wide, around the duck bill is frequently advantageous in holding the walls of a relaxed vagina out of the field. This is particularly advantageous when any minor operative procedure is to be done on the cervix as biopsy, smear, or cauterization.

Laboratory: Until recently the ovarian function was determined by some objective sign as the various types of menstrual disorder shown by: irregularity, amenorrea or menorrhagia. Obesity of the general type, with disposition of fat over the trochanters, mons veneris, and in the breasts, appears in many such patients after the age of 30. There may be atrophy of the genitals with loss of genital and axillary hair. Now, however, the degree of ovarian function can be accurately determined by quantitative tests for the amount of female sex hormone present in the blood or urine.

In infections, the sedimentation test is being used more frequently to differentiate particularly appendicitis and acute salpingitis. This test is one of measuring the speed with which the red cells settle in the plasma of the blood. The cause of the variation in the rate of this settling has not been determined. The test most frequently used is one with test tubes six and one-half c.c's. in length, and five mm's. in diameter, with a capacity slightly over one c.c. They are marked at the one c.c. level and below this at six, 12, and 24. The sedimentation time is the number of minutes it takes the red blood cells to settle to the 18 mm. mark. Blood is drawn from the vein with a syringe containing sodium citrate solution. Normal healthy blood settles three to fifteen mm's. in an hour. In appendicitis, in the first 48 hours after the onset of symptoms the sedimentation rate is practically always normal, while in early acute salpingitis the sedimentation rate is nearly always increased markedly. This variation in the sedimentation rate has been shown to hold true when the Schilling index showed no characteristic differences in the two conditions. After 48 hours, or as soon as the appendix has become abscessed, no dependence can be placed in the sedimentation test to differentiate the abscess from a pus tube.

In Neisserian infection the gonococcus complement fixation test is valuable as an aid in determining whether a known case of gonorrhea is active, latent or cured. This test loses its value in the early cases, and in the presence of sero-positive syphilis. When it is persistently positive regardless of whether it is one, two, three, or four plus, it means the presence of active organisms and disease. A negative reaction, however, is not conclusive as some cases of gonococcic infection have given negative results.

In the diagnosis of lymphogranuloma inguinale the Frei test is rapidly being accorded a place of importance in gynecologic services. It is specific and is valuable in chancroidal in-

fections, ulcer, and adenitis, conditions which may be confused with lymphogranuloma inguinale. There is commercially available from the Lederle Laboratory an antigen for use in this test. For the test an intradermal (not subcutaneous) injection of 1/10 c.c's. of antigen is given, and the reaction is read in 48 hours. A red papule, one-half cm. or larger in diameter is regarded as positive. Because the papule may frequently umbilicate or suppurate, it is desirable to make the test on the thigh. The reaction is of an allergic nature and is present from 10 to 21 days after the adenitis appears.

In carcinoma of the cervix, early diagnosis before the ulcerative invasive stages offers some possibility of effecting a cure in a high percentage of cases. There have been no recent developments in the application of surgery, radium or röentgen ray, as a means of treatment or cure. So the mortality from this disease can only be reached when the condition is diagnosed in the early stages. Two aids in diagnosing early carcinoma of the cervix, (that is before it reaches the ulcerative stage), are the Schiller iodine test, and the colposcope.

In the Schiller test, Gram's solution is applied over the cervical mucous membrane. The normal squamous epithelial cells contain glycogen which absorbs the iodine, and stains a deep mahogany brown. In areas undergoing a pathologic change the cells become atypical, lose their glycogen, and, therefore, do not accept the stain, but instead appear as "pinkish" or faintly stained regions. This non-staining quality is distinctive of pathologic change, and is not proof of any one definite condition. It acts as a sign post to point out the suspicious areas from which sections are removed for histological examinations. Carcinoma which has reached the invasive stage will take the iodine stain, but at this phase, it is past the early stage, and can readily be diagnosed without the use of the Schiller test. In performing the test, it is necessary that care be taken not to traumatize the epithelium of the cervix by too vigorous sponging or accidental scraping with the speculum, for this may remove the pathologic cells which are only two or three layers deep, resulting in the areas taking the iodine stain, and thus obscuring the picture.

The colposcope is an instrument permitting of visual examination of the cervix, and surrounding tissue, under magnification. With the aid of this instrument it is possible to see pathologic areas measuring just a few millimeters in diameter—areas so small that they could not be seen with the naked eye, and which could not possibly be palpated. The most common place for the development of malignancy is at the edge of an erosion where there has been an attempt at healing. The colposcope has a distinct advantage over the Schiller test because with it, erosions can be studied which is not possible with the Schiller test, and any change suggestive of carcinoma or leukoplakia may be observed. This furnishes a more sure method of obtaining biopsy material. In practically all clinics, radium is the treatment for carcinoma, and is always preferred to hysterectomy where the disease is well developed. Hysterectomy may be indicated in certain cases, where it has been determined that the carcinoma is located only in the cervix without metastasis as one feels fairly certain of in cases where the diagnosis has been made very early in its development.

I feel that any test or method whereby cases can be diagnosed earlier and more correctly, should be given consideration.

EYEGLASSES REFLECT CUSTOMS

Throughout history, glasses have been as significant, symbolically and in relation to social custom and dress, as they have been important to improved eyesight, declares Meta Rosenthal in "The Eyeglass Mirrors the Era" appearing in the June *Hygeia.*

Their origin goes back to antiquity and China, where symbol and ceremony govern life. In the latter half of the fifteenth century, literate folk, particularly the mandarins, wore them; and the more important the man, the bigger were the circles of glass, and the heavier and more elaborate were the horn or shell frames.

THE BARBITURATES

By R. L. HUNTER, M. D.
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FOR many months I have noted the injurious affects of veronal and other derivaties of barbituric acid which include luminal, allonal, phenobarbital and many other trade names for the same drug. Dealing with the affects of these drugs may not be in my line, or may not be a public health problem, but it is certainly an economic and social problem.

It is important to outline some reasons why the use of these drugs are so general among our people. The stress and strain experienced by the average American citizen incident to solving the bread and butter problem and the nervous, restless, hustle in life to get just a little higher than the other fellow, to have a nicer home, a finer, larger automobile to speed just a little faster than the other fellow, to become the leader of this clan, or that faction, or to beat at this game or to drink just a little more beer or to stay out at the party a little longer, all tend to exhaust the nervous system and the natural result is in the direction of a race of neurasthenics, chronic grunters or chronic complainers. The individual who has an unstable nervous system, whether acquired or inherited is more apt to become addicted to some drug which will tend to numb his senses and place him in a temporary state of oblivion.

The habit forming drugs with the exception of the opiates can, unfortunately, be obtained as easily as aspirin and nearly as cheaply as aspirin and the deleterious effects are not noticeable until the addict is fully confirmed in his addiction. It is natural for the most of us to try to find some avenue of escape for our troubles. The way of escaping varies greatly with individuals. Some take to whiskey and end up as a rule with some of the barbiturates, or some other narcotic or hypnotic drug may be the first method of passing into a state of oblivion. Life for any of us, you know, is not a song all the time nor may we always tread a path fringed with primroses. On the other hand life for the most of us is a continual struggle and survival of the fittest is the rule. Ending up a drunk or a family quarrel by alcohol, narcotic or hypnotic drugs is cowardice, and trying to dodge your share of the hard places in life usually places an added burden on some one else, who carries his own load with your troubles and maybe many others piled on top. The person who exhausts his nerves is like an automobile with batteries down or with a "shot" coil, and his condition is nothing more nor less than just that he has expended his energy. The non-secretory glands are shot and in order to force himself to carry on, he resorts to stimulating or hypnotic drugs. Thus in order to get relief he takes anything that will give him oblivion from his mental and physical suffering. To say he is not sick only drives him to some other doctor and usually to a quack or to fake medicine. He is a sick man mentally and physically; he should be carefully treated, and his condition carefully and honestly explained to him.

No greater damage can be done your patient, doctor, or your customer, pharmacist, than to allow him to procure in any way all the hypnotic drugs he desires to use. He will do anything to reckon with his environment and the craving of his human soul. The more he lacks strength, the greater is his fear and the more is his inefficiency. He rarely ever has pain, but his mental anguish is greater than pain. He has a temperament without fortitude to suffer pain, without health to enjoy what appeals to and satisfies the strong. So the soul weary of the days toil, the depressed in spirit seek victory and solace in

some drug that will produce oblivion. If the doctor, after convincing himself that no organic condition exists can convince the patient that he or she is suffering from a nervous breakdown, prescribe a safe sedative, rest, tonics, baths, massage, and the kind of vitamins indicated. He will increase his prestige as a doctor, will have the most grateful patient under the sun, the country will be saved the cost of the ever increasing lunacy hearings, and the insane asylums will not be running over. But if the patient is not divorced from Miss Veronal and all her brothers and sisters, either the lunacy board or the undertaker gets a job.

If you have had a chance to observe the cumulative effects of veronal, you will agree with me that it should not be sold except on prescription by a real doctor and it should not be dispensed except in amounts to meet an urgent emergency. The pronounced mental symptoms following in the wake of continuous use of veronal and the derivatives of barbituric acid is a constant menace to the public. The average physician, I am sure, is not cognizant of the great frequency of the use of these drugs and I am confident that the ultimate results of the continuous use of these drugs are not fully appreciated by the average physician and he is not, therefore, conversant with the fact that they are a serious menace to a large number of people. We all know that opium and its derivatives are habit forming and we are careful when prescribing them to a neuropathic or some one suffering from a painful disease. The transition from the use of any of these drugs and whiskey from one to another is easy.

A potential criminal, semi-oblivion, lack of muscular coordination, mental inertia and mental deterioation, stamp the veronal user and brand him as one who is morally, mentally and physically unfit, produced by the toxic effects of the drug on the higher centers of the brain. Any drug or drugs which have a predilection for the higher centers of the brain are dangerous and should be used with every precaution, since the baneful effects are inescapable and result in the undoing both mentally and physically of the user.

Toxic action appears to be mainly the intensification of the depression of the central nervous system.

Dr. Eddey of Cornell University, after 11,000 observations of doses of from 20 to 60 per cent of the fatal dose to cats found that none of the preparations of barbituric acid were much more actively hypnotic in proportion to their toxicity than veronal and none were relatively more toxic than veronal. According to the *British Medical Journal* of May 22, 1926, that country prohibits the sale of veronal, except on prescription of a qualified physician and states that it is a conceded fact that most nations of the world, except the United States, require a prescription for the purchase of veronal. Further regulations are about the same as we require for morphine. The observations in London of the devastating effects of hypnotic drugs showed emphatically that veronal was considered the most dangerous hypnotic in the pharmacapocia. Death occurs commonly by suicide, but mainly from overdose taken for sleeplessness.

The person using this drug has practically all the symptoms of locomotor ataxia, except possibly the Argyl-Robinson pupil. The user is little more than a moron with just enough mentality to realize that his business is in a bad way, but is mentally incapable of doing any consecutive thinking or constructive work of any kind. They drop from being a good lawyer, doctor, dentist or business man or woman to a typical ne'er-do-well. They are asocial and as a consequence are better satisfied by themselves. This is the direct contrast to the drunk who wants everyone to know he is "high" and they are therefore, less trouble to the public than the common drunk. I could report at least 20 cases here in Boone county. Some are now in the asylum, some in jail, some in Charleston hospitals at the county's expense. Eight or ten others are home, well and happy after I had taken

the drug away from them and explained its cumulative effect, and some are dead. Many others will die, lose their business or be committed to an asylum before the law-making bodies who are surrounded on every side by this interest and that interest in the thousands of different things existing today, wake up to the fact that they are allowing drugs to be sold to the public as easily and cheaply as aspirin, but almost as dangerous as morphine. These drugs are practically new. The doctor of 20 years ago knew nothing about them. How long will it take us to recognize the danger of their continued use?

God bless the man who invented sleep,
So Sancho Prnza said and so say I
And bless him also that he didn't keep
His great discovery to himself, or try,
To make it, as the lucky fellow might—
A close monopoly by patent right.

But if we get to the point where we must be put to sleep every night and day, by some drug or any artificial way, we had better see a good doctor, or at least begin to pray. If we live right, eat right, work right, think right and drink right, we will have little worry about sleeping, and the narcotic and hypnotic drugs will fill their intended place, viz: The emergency and painful diseases and conditions.

TUBERCULOSIS OF THE BREAST

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Tuberculosis of the mammary gland is a rather infrequent but important disease. Early diagnosis and treatment brings relief and a correct diagnosis may save a mutilating and disabling operation.

Sir Astley Cooper made the first recorded observations on "Scrofulous Swelling of the Bosom" in 1829. It was not until 1881, however, that more detailed studies were carried out and Dubar proved tuberculosis of the breast when he found the tubercle bacilli in the tissue. The total number of cases reported in the literature to date (January, 1935) is about 361.

The first comprehensive review of the literature was done by Anspach who collected all the obtainable reports up to 1904, a total of 77 cases. Deaver reviewed the cases reported between 1904 and 1914 presenting 77 more cases. Fox and Roble summarized the cases between 1914 and 1924. Barker, however, repeated this last period 1914 to 1926. For convenience Barker's report is taken to prevent the troublesome overlapping of two years. Barker's group included 64 cases.

The foregoing have been summarized. Each of the 142 cases summarized has been outlined in a chart. For technical reasons it was necessary to omit this chart from the Journal. The additional cases from 1926 to 1935 have been reviewed, and charted. There were 138 of these. Details could be obtained on only 134, however. To this number six additional cases are being reported for the first time from the New York Cancer Institute (Dr. Ira Kapland, director.)

Tuberculosis of the breast has classically been called primary or secondary according to whether or not other foci were found. Much stress has been placed on this division. Anspach made his report in 1904 chiefly for the 40 primary cases, and mentioned 37 other cases which were secondary. If another focus was found, the breast was supposed to be secondary to this lesion. No discussion being presented to so much as question whether the other lesion might not just as well be due to an original, perhaps latent, tuberculous mastitis. Certainly with the improved methods of diagnosis, including the x-ray, refinements

in microscopic technique, staining, and animal innoculations, other foci would be found in some of the previously reported so-called primary tuberculous mastitis. Especially is this true since the search was made chiefly for manifestations of the disease by physical signs. Some investigators (Kleb, Gatewood, Norris) maintain that there are no primary lesions in the breasts, that other lesions can be found, though perhaps not until autopsy. Morgan, among others, on the other hand, contends that the breast can be infected with no other focus in the body.

The only practical value which might be attached to the primary and secondary classification is the consideration of treatment. However, the treatment would not be varied by the presence of another focus but rather by the activity or extent of the lesion. For these reasons this classification will not be stressed in this paper.

Etiology: The accompanying outline will be used in studying the possible route by which the breast may become infected by the tubercle bacilli.

1. Direct infection of the breast, chiefly through the nipple.
2. Infection through the blood stream.
   a. Without other demonstrable foci.
   b. With other foci.
      (1) Lungs and pleura.
      (2) Kidneys.
      (3) Bone or joints.
3. Infection through the lymph system with adenitis of the following locations.
   a. Axilla.
   b. Neck.
   c. Supraclavicular space.
   d. Retrosternal nodes.
4. Infection by direct extension from contagious tissue.
   a. Skin.
   b. Ribs or sternum.
   c. Pleura.

1. *Direct Infection:* The tubercle bacilli may enter the breast through the skin or the nipple by an abrasion or other breaks in the continuity of the integrement, (Orthmann, Kramer.)

A tuberculous child may infect the breast. This is more probable, of course, because the bacilli are frequently found in the mouth and in saliva. Under the strain of nursing the nipple is subjected to much trauma with possible abrasions which furnish portals of entry for the ever present organism.

2. *Through the Blood Stream:* Miller (1934) in his book "Tuberculosis of the Lymph System" presented a possible route whereby the tubercle bacilli may enter the blood stream and circulate without actually having formed an original demonstrable focus in the body. Such an organism in the blood stream could be the causative agent of a mammary tuberculosis with perhaps no other foci.

Infection coming through the blood stream from other foci (lungs, kidneys, bones, etc.) is a commonly accepted method of spread and needs no further comment.

3. *Infection Through the Lymph System:* This usually occurs from the axillary glands, though the spread could occur from other glands, chiefly the tracheobronchial, cervical, supraclavicular, or retrosternal. The associated lymph vessels, of course, supply the direct channels for the transmission of the organism. The cervical and tracheobronchial are usually the first to become infected and spread to the other groups of glands takes place for these foci. Another possible route by which the axillary nodes may become infected by the tubercle bacilli is from a skin lesion on the hand, arm, or other superficial areas drained by the lymph vessels which lead to this group of nodes. Deaver reports a case following the route in detail from the tuberculous infection of the finger to the axillary lymph node, hence to the breast.

4. *Infection by Direct Extension:* In considering tuberculosis of the breast tissues (ducts and gland tissue) we must regard it as extension from an organ, and therefore secondary to it, when infection comes from even so intimate a structure as the skin over the breast. The skin of this area may become

infected by lupus (Friendlander) or any of the other characteristically distinct types of tuberculous skin infection. The fact that the anatomical structures are different, makes it necessary to consider this spread by extension from contiguous tissue.

Infection of the ribs or sternum which perhaps have been involved directly from the pleura may in turn transmit the bacilli directly to the breast.

Also tuberculous mastitis may be a part of an acute miliary tuberculosis which is usually a terminal process and the breast pathology is an incidental condition in the general diffuse infection.

Antecedent Factors: Trauma could de definitely traced as a possible etiological factor in only about eight per cent of the cases and a preceding attack of mastitis in only six per cent of the cases. In a small number of the last reported series (140 cases) ten instances were specified as having the onset during pregnancy and fourteen cases in which the mass was noted during lactation.

Associated Foci: The lungs appeared as the most frequent location of an additional tuberculous infection. This occurred in 13 per cent of the cases. In six per cent of the cases, adenitis, not locally associated (as in the axilla of the affected side) was noted. Other foci were kidneys, skin, and bone.

Type of Organism: The type of organism causing tuberculosis of the breast would depend, of course, upon the source from which the infection comes. Assuming it to be a pulmonary lesion, the human type of tubercle bacilli would be the likely causative agent. Many breast infections, however, are from glandular foci. The bovine type is the prevalent organism here. Barker thinks that the breast infections are of the bovine group. The avian type of bacilli has been attracting some attention as the possible etiological factor in glandular tuberculosis. It is interesting to note that this is true even of a group of the lymphomas whose etiology has not hitherto been proven definitely to be tuberculous.

Incidence: Tuberculosis of the mammary gland is a comparatively rare condition. Only about 361 cases were reported in the literature to date (January 1, 1935.) Tuberculosis is the etiological factor in about one per cent of the cases of the breast pathology. Deaver expressed the figures a little differently when he said that 48 cases were reported between 1904 and 1915 when it was known that 5,000,000 deaths were caused by tuberculosis during that period.

Mastitis of this etiology is much more common in women than in men. In the total six per cent were in males, 71 per cent in females. (Thirty-three per cent not specified.)

Age: By far the largest number of cases occurred between the ages of 30 to 50, in general, the child-bearing age. The oldest case reported is 74 years and the youngest is 13 years. (Anspach quoted Demme as having reported a case in an infant of four months. This report could not be obtained in detail.)

Childbearing: Thirty-six per cent were found to have borne children. Deaver stated that the changes incident to pregnancy are not predisposing to tuberculous infection of the breast. Von Ebert, however, says: "Lactation is possibly the most important predisposing cause of tuberculous mastitis.

Side: It is usually stated that the right side is more frequently affected than the left. This study does not confirm such an opinion. The right side was involved in 36 per cent of the cases, the left in 32 per cent, and in two per cent bilateral involvement was noted.

A word of explanation should be given here about the percentages as recorded in the table. The figures will run low because the total was not adjusted by the number "not stated" for details in the various columns. For instance the report on "pain and tenderness." The total per cent in the last two groups were 55 and 53 per cent respectively, while the percentage for the group was only 34. This was reduced a great deal by the fact that a number of the cases had no mention of pain at all. This, one may say, assumes that there was no pain. But not necessarily. A number of the cases were presented to illus-

trate one point; other facts may have been inadvertantly omitted because they did not bear directly on the idea to be stressed. An example of this could be the cases of tuberculous mastitis reported to show the infection following the injection of a vaccine under the breast. Another would be the cases reported to show the efficiency of tuberculin therapeutically. Generally speaking, then any figure approximately 33 per cent or more certainly has significance.

Symptomatology and Signs: The chief symptom causing the patient to present herself for examination is a "mass in the breast." The axillary glands are involved early and are noticeably large to the patient in many cases. Forty-three per cent of the patients complained of "mass" and a total of 66 per cent gave mass with another symptom as the chief complaint, mass with pain being the most frequent combination. Next in order were "mass with discharge," "swelling of entire breast," "mass with pain and discharge" all being common. Exclusive of "mass," "retracted nipple" was the most frequently complained of, and "axillary gland," "discharge from the nipples" and "ulcer" each ranging from one to two per cent.

Unquestionably then, the mass is the most common symptom and usually the earliest. On chart number one, in which the cases from 1925 to 1936 have been summarized, an additional column was put in, "Initial Symptom." This shows that the mass attracted the patient's attention. This was not followed out in the general percentage column because these facts were not available in the previous summaries.

It is interesting to note that in only one of the 357 cases did the patient present herself without some complaint referable at least to the general locality of the breast. This patient came in because of "poor general health" and the mass was found in the routine examination. This is what one would expect, however, because in general the health of these patients is usually good. This contrasts strongly with tuberculosis found in other organs when the general health is usually impaired. Fifty-five per cent of Barker's series and 39 per cent of this last series were specified to be in good general physical condition.

Sinuses or fistula were found in 40 per cent of Deaver's series, 38 per cent of Barker's and 25 per cent in the last reported series. Many consider a painful draining sinus of the breast with enlarged axillary glands enough to make a diagnosis of tuberculosis of the breast.

Pain is usually given as an unimportant symptom by most writers (Deaver, McFarland, Cheatle, Cutler.) This statement occurs in practically all of the text-books and usually in the current literature. Deaver, for instance, stated that pain associated with breast tuberculosis is an indication to x-ray the underlying substance for pathology, "beyond this the value of pain as a differential diagnostic index is practically nil."

Scudder, however, states that "pain is an early and constant symptom, often severe in type and affecting 50 per cent of the cases." This has certainly been found to be true in our series. In Barker's series 55 per cent were found to have pain or tenderness and in the last series 53 per cent. This is indeed an important and helpful symptom because the most important differential diagnosis to be made is between tuberculosis and cancer. Cancer of the breast does not give pain or tenderness early. If, then, pain or tenderness is found, it practically rules out cancer and obviates the necessity of considering an extensive mutilating operation and may be used as an important point in differential diagnosis.

The skin is found to be involved frequently. It is more frequently attached to the mass than it is discolored. The term "orange skin" is used to describe the appearance of the surface overlying the mass at times. Discoloration is usually a reddening.

Nipple pathology was subdivided into two divisions—whether (1) retracted or not and (2) discharge. They were found to be retracted in 27 per cent of the cases and a dis-

charge could be expressed in six per cent. The retracted nipple gives an added hazard in the problem of differential diagnosis between cancer and tuberculosis for retracted nipple is so classically associated with carcinoma of the breast.

Axillary nodes were found in 41 per cent of the cases. This makes it of definite diagnostic value in some differential points, (fibroma, cysts, etc.)

The quadrant of preference for the tuberculous mass is usually stated as the "upper outer." The present study bears out this finding. There were a few vaguely stated localities for the masses which prevents a more clear cut classification. Whenever the nipple was used as a localizing point in placing the mass it was put down under this heading. It does not mean, therefore, that the mass was always just beneath the nipple; it might have been "just above" or to the "outer side," etc.

Course: Tuberculosis of the breast is a rapid growth. The patients seek treatment earlier in the course of this disease than for slowly developing diseases. The local symptoms are more fulminating. Sudden changes in size and contour of the breast with early involvement of the axillary nodes cause the patient to come to the physician.

In spite of this urgent local symptom, the general condition of the patient is remarkably good. They remain robust and have few if any systemic symptoms.

Pathological Types of Mammary Tuberculosis: Nodular tubercular mastitis is by far the most common form of acid fast involvement of the breast, and this general group is divided into two classes: nodular discrete and nodular disseminated or confluent. The former is the more frequently found. Like tuberculous infection elsewhere the bacilli become lodged in this instance in the stroma of the mammae and a typical tubercle is formed about it with outlying daughter tubercles. The second subdivision of the nodular tuberculous mastitis is the disseminated group in which the tubercles are extremely numerous and practically all the lobules are involved. This is a more fulminating type.

Scott has emphasized another type which is called the sclerosing tubercular mastitis. In this group instead of the typical tubercle formation, there is a diffuse epithelial and embryonic connective tissue infiltration. This type is usually found in elderly patients. In terminal stages the breast is small, firm, and deformed. The differential diagnosis between this and the scirrhus carcinoma can be made only pathologically.

Acute tuberculous mastitis is sometimes observed in which the mammary glands are but a part of the diffuse generalized process. In such cases the infection is terminal, the breasts are but an incidental involvement, and the condition has no surgical significance.

Klose presented the report of 17 cases of tuberculosis of the breast occurring with carcinoma. At times, under such circumstances, malignancy is found in the breast and the axillary glands prove to be tuberculous. There were three cases found associated with tuberculosis in this complete series (140).

Differential Diagnosis: The tuberculous mass is irregular in contour, fairly well defined and usually tender. It is of irregular consistency; in general a firm mass but containing soft areas which at times become fluctuant, often progressing to the point of abscess formation and discharge. The surrounding tissues do not become adherent causing fixation to the subjacent chest wall and overlying skin, until late. The nipple is, at times, retracted when sclerotic tissue has replaced the inflammatory process and caused contraction. After breaking down and causing a sinus formation the process may become quiescent and the sinus may even heal. This is reported by some to effect a permanent cure at times. Usually, however, it is only a latent stage which flares up again subsequently.

The following conditions must be excluded before a diagnosis of tuberculosis of the breast can be made:

1. Benign growths.
   a. Fibroma.
   b. Cysts.
   c. Carcinoma including Paget's disease.
   d. Sarcoma.
   e. Pyogenic infections.
   f. Syphilis.
   g. Actinomycosis.

In this series it is interesting to note that a preoperative diagnosis was made of cancer in 33 cases; tuberculosis, 26; adenoma, seven; inflammatory mass, five; granuloma, two; luetic, one, and sarcoma, one.

Adenoma, cystadenoma and fibromas are pathological differentiations rather than clinical. Clinically we may group them together and say benign adenomas. The mass in this case is usually smooth, painless, movable, regular in contour, soft or only moderately firm (but not hard.) The consistency would depend on the degree of fluid or fibrous tissue present and perhaps equally important, the position in relation to the other tissues. If situated deeply, its palpable consistency will vary depending upon the amount of fat or glandular tissue which overlies it. A typically cystic adenoma situated deeply in a large, pendulous, fatty breast may lose its characteristically fluctuant feel. The mass may become less freely movable if there has occurred about this mass an inflammatory process. This having previously occurred and subsided, leaves only the surrounding scar tissue partially to fix the mass. In these benign adenomas there is no discharge from the nipple, nor are the axillary glands enlarged.

The carcinoma of the scirrhus type is practically impossible to differentiate clinically from the sclerosing type of tuberculous involvement.

In the nodular carcinoma, the mass is characteristically hard, rock-like, nodular, maybe fixed to structures below or above. The nodes of the axilla, if involved, are also hard.

Paget's Disease: Paget's disease is a malignant papillary dermatitis. The disease is unilateral and begins on the top surface of the nipple as a scaly patch, bright red in color. There are cutaneous sensations that may be associated tenderness, itching and burning. The lesion is apparently superficially about the nipple, but there is definite induration palpable in the deeper structures underlying the areola. The edges are irregular, well marked, and indurated. The surface does not bleed unless injured by trauma. The spread is slow. As the disease progresses, the nipple becomes atrophic and flattened. The subjacent structures may be involved for a farther area than is apparent by the skin lesion. Regional lymph nodes are not as a rule involved. The diagnosis is made by microscopic examination. This is done either in the form of a biopsy or by scrapping the superficial scales from the lesion and examining for Paget cells.

Sarcoma: Sarcoma of the breast usually attains a formidable size and is nodular, rounded, rather definitely outlined. The process usually involves the skin and, as the mass grows, ulceration results. The nipple is not retracted but may be distorted. A not uncommon history associated with sarcoma is that of a slow growing or stationary tumor mass which suddenly begins to grow rapidly. Clinically a diagnosis can be made on the very large, circumscribed, movable, lobulated, elastic mass which grew very rapidly, not being adherent to the skin, the nipple not retracted, and there being no axillary glandular involvement. The final diagnosis is, of course, pathological.

Acute Mastitis: Acute mastitis is most common during lactation, but it does occur at other times also. The history of acute onset with pain, swelling, tenderness, and axillary lymph node involvement is typical. Later the breast mass becomes hard, adherent to skin, the tenderness persists and the skin becomes adherent. The mass subsides slowly. This may be confusing if a careful history of onset is not obtained. The inflammation may continue until the pus is released spontaneously or surgically. The acute onset and marked symptoms would tend to differentiate

it from a tuberculous infection, though a bacteriological study is the only definite and conclusive test.

Infections about the nipple are prolonged at times and present many diagnostic difficulties. Human bite wounds heal very slowly. The bacteriological studies are at times inconclusive.

Syphilis of the Breast: Syphilis of the breast is not a common disease and is apparently becoming less frequent. The facts that the "wet nurse" is being supplanted by artificial feeding, and that early diagnosis due to the increasing use of the Wassermann or other tests for syphilis, bring the patients for treatment early.

There are characteristic breast changes which may come in each of the three stages of syphilis.

1. Primary lesions, or chancres, may occur on the nipple, areola, or skin. The lesion may be typical with all of the characteristics found with the genital chancre namely: discrete, circumscribed, painless, isolated, lesion with indurated edges, slightly elevated, etc. Or they may assume the appearance of any nonspecific skin lesion, for example, variable types of ulcer, or fissures or erosions at the use of the nipple, or the lesions may be multiple. The dark field examination may confirm the diagnosis. The Wassermann is, of course, not found in the early stages.

2. The secondary lesions: Besides the characteristic diffuse secondary rash which involves the skin all over the body and incidentally the covering of the breast, there is the mucous patch or condyloma which is usually found on the under surface of the breast at the chest wall contact. These are typical condylomata. The skin is elevated, warm, moist, soft, and with a slimy secretion, greyish in color.

3. The tertiary lesion: The gumma is the most common luetic lesion of the breast. It is a painless, slow growing, movable, hard, well circumscribed mass which may be deep in the breast or may be superficial and ulcerate the skin. The lymph nodes, regional and often generalized, have their characteristic enlargement.

Actinomycosis: Actinomycosis of the breast is a rare condition. The disease usually manifests itself as a painful nodule which may involve the skin and cause a draining sinus. The discharge contains the typical "sulphur granule" particles but the diagnosis is confirmed by a bacteriological study of the pus.

The only positive diagnosis of tuberculosis of the breast is pathological or bacteriological, (microscopic or animal injection.) At times it may be difficult to obtain a biopsy for pathological examination that is representative and diagnostic in character. A number of pathological reports of a whole breast removed will report that large areas show only inflammatory reaction and then there is a definite section that shows unmistakable tubercule formations. By far the greatest number of cases reported were positively diagnosed by the pathologist after operation.

Prognosis: The prognosis, of course, depends on the pathology found. If the mammary lesion is only a part of a widespread tuberculous infection, involving many structures or extensive pulmonary tuberculosis, the prognosis is poor. The prognosis then depends on how localized and how "removable" the lesions are. If there are no active tuberculous lesions, the removal of the breast with follow-up treatment offers a favorable outlook.

Treatment: The treatment is surgical. Due to the fact that it is very difficult to make a clinical diagnosis differentiating it from carcinoma, unnecessary radical operations have been and will be done.

Simple mastectomy is the operative surgical procedure of choice. The disease does not require the detailed and widespread removal of fascia and muscle that is necessary and so important in a radical mastectomy for carcinoma. Only the gross lesions of the breast and axillary glands are important. The body

overcomes the remaining infection in the lymph tissue.

X-ray therapy locally is helpful at times when the lesion is well localized. An erythema dose given in ten weekly doses or given in four doses at about three week intervals are the accepted methods. The end result desired, of course, is replacement by fibrous tissue.

Heliotherapy is helpful also. Generalized body exposure to the ultraviolet ray, with extra radiation perhaps over the local lesion, offers most. Some recommend follow-up with tuberculin given therapeutically.

In addition to these special treatments the time honored systemic therapy, namely, a well rounded, complete diet, adequate rest, fresh air and sunshine.

Of course, any extra or unnecessary strains on the body vitality should be avoided, such as pregnancy, or any exhaustive business or physical undertaking.

Conclusion: 1. The tubercle bacillus is the etiological agent in about one per cent of breast tumors.

2. A mass in the breast is the most common complaint.

3. Pain is a common symptom and is helpful in differential diagnosis.

4. Sinus or fistula are present in about 20 to 40 per cent of the cases.

5. The general health is usually good.

6. Preoperative recognition of tuberculous mastitis may save a mutilating operation.

7. Differential diagnosis must be made chiefly to exclude carcinoma. Sarcoma, inflammatory masses, adenoma, and luetic involvement must also be considered.

8. The treatment is simple mastectomy with proper after-care.

	Anspach	Deaver	Barker	This Series	Total
TOTAL:	77	77	63	140	357
SEX:					
Female		74	58	121	253—71%
Male		3	5	14	22— 6%
Not stated	77			5	82
AGE:					
Youngest	16	14	17	13	13
Oldest	59	64	59	74	74
10-20		6	2	9	17
20-30		20)	26)	40)	86)
30-40		23)—76%	17)—90%	35)—68%	75)–59%
40-50		16)	14)	21)	51)
50-60		7	3	19	29
60-70		3		8	11
70-80				2	2
Not stated		2	1	7	10
SOCIAL STATUS:					
Single	12—15%	14	6	17	49
Married	28—35%	45)	32—50%	63)	168)
Widow		2)—61%	0	2)—46%	4)–48%
Male		3	5	14	22
Not stated		4	20	45	69
PREGNANCIES:					
None		40			40
One or more	19	31—43%	24—30%	58—41%	132—36%
Not stated	58	3	34	68	107

	Anspach	Deaver	Barker	This Series	Total
SIDE:					
Bilateral		1	3	4	8
Right		39—49%	28—44%	65—46%	132—36%
Left		28	28	59	115—32%
Not stated	77	9	4	12	102
CHIEF COMPLAINT:					
Lump		54—70%	35—55%	68—48%	157)-43%
Lump with pain		7	9	27	44)
Lump with discharge		2		17	19)
Lump with nipple disc.				1	1)-66%
Lump with gland		1		1	2)
Lump with pain and disc.				6	6)
Lump with swollen br.		1	2	3	6)
Gland		1		3	4
Ulcer				3	3
Ulcer with pain			2		2
Retracted nipple		6			6
Pain			1		1
Disc. from nipple		1	1	2	4
General health				1	1
ONSET:					
Duration when examined:					
Under 1 mo.			5	15	
1-3 mo.			6	18	
3-6 mo.			5	25	
6-9 mo.			8	16	
9-12 mo.			1	3	
1 yr.			5	11	
2 yr.				13	
3 yr.				5	
5-10 yrs.			2	7	
10 yrs. or more			2	4	
Not stated			29	22	
SINUS OR FISTULA:					
Present		31—40%	20—38%	36—25%	87—22%
Absent				30	
Not stated			39	75	
PAIN or TENDERNESS:					
Present		12—14%	36—55%	75—53%	123—34%
Absent			4	26	
Not stated				39	
GENERAL HEALTH:					
Good			35—55%	55—39%	
Fair			7	45	
Poor			8	12	
Not stated			13	29	

	Anspach	Deaver	Barker	This Series	Total
LOCATION OF MASS:					
Upper inner Q.		0	5	6	11
Upper outer Q.		20	14	44—31%	78—21%
Lower outer Q.		8	2	9	19
Lower inner Q.		3	2	3	8
Upper Q.		9	3	10	22
Outer Q.		3	5	5	13
Lower Q.		4	5	2	11
Inner Q.				2	2
Nipple		4	10	19	33
Entire breast		5	2	3	10
Periphery		1			1
Not stated		15	15	40	70
SKIN:					
Discolored		4—5%	7—11%	39—27%	50—13%
Attached		33—42%	18—28%	50—35%	101—27%
Normal		38	8	24	70
Not mentioned		2	30	27	
NIPPLE:					
Ulcer		3			3
Retracted		28—36%	18—28%	49—34%	97—27%
Normal		42	8	25	75
Not stated		4	37	62	180
Discharge		5	4	14	23
No discharge			59	15	74
Not stated		72		62	211
NODES:					
Axillary		49—63%	26—41%	72—51%	147—41%
Cervical			6	9	15
Nodes			6	25	31
Not stated		28	31	45	181
HEREDITARY & CON.:					
Known	12—15%	5—7%	7—9%	14—9%	
Not known			41	69	
Not stated				68	
ANTECEDENT FAC'R:					
Trauma	6—7%		2	22	30— 8%
Not trauma				15	
Mastitis	8—9%	9—12%	5	2	24— 6%
Normal			36		
Mass					
Not stated				82	
NOTICED DURING:					
Pregnancy				10	
Lactation				14	
Skin infection				1	

	Anspach	Deaver	Barker	This Series	Total
OTHER FOCI:					
Lung		6	13	30—29%	49—13%
Glands		15	4	7	26— 6%
Kidney					
Skin		1		1	2
Bone		7	3	3	13
None			38	69—48%	107
Not stated		48	5	31	162
TREATMENT:					
Biopsy only				3	3
Drainage		2	6	3	11
Excision		12	13	22	47
Excision with glands		7	4	4	15
Simple mastectomy		18	15	40	73
Simple mastectomy with glands		23	7	20	50
Radical mast.		15	4	29	48
X-ray with operation			1	6	7
Radiation only				2	2
Tuberculin				4	4
DIAGNOSIS (Preop.):					
Inflammatory				5	
Tuberculosis				26	
Carcinoma				33	
Granuloma				2	
Luetic				1	
Sarcoma				1	
Adenoma				7	
DIAGNOSIS (Final) Made by:					
Histology		77	52	126	
Bacteriology					
Microscope		12	60	7	
Animal inoculation		3	2	11	
RESULTS:					
Healed			42	63	
Slow			2	8	
Died				2	
Not stated				68	

BIBLIOGRAPHY

Aloi, V.: *Tuberculoma of Costal Origin.* Case Reforma Med. 44:33-34, January 9, 1928.

Ambrosoli: *"Di una mallalia dilla glande mammona, etc."* Gazette Med. Clin. Ital. Lombardi, 1864.

Auspoch: *Primary Tuberculosis of the Breast.* Am. J. Med. Sc. 1904, Vol. CXXVII, page 98; Vol. CXLVII, pp. 157, 185.

Barker, Howard B.: *Tuberculosis of the Mammary Gland.* Archives of Surgery, 13: 435-444, 1926.

Bartoli, O.: *Pathology—Tuberculosis of Breast.* Clin. Chir. 32: 405-417, April 29, pathology case.

Battista, A.: *Primary Tuberculoma of Male Breast Case.* Folio, Med. 17: 622-640, May 30, 1931.

Broncheri, T.: *Primary Hypertrophic Tuberculosis in Women.* Rassign. enternaz. di. clin. e. terap. 11: 481-492, July, 1930.

Bloodgood: Kelly & Noble, Gynecology & Abdominal Surgery, Philadelphia, 1908.

Boyd, Mm.: Surgical Pathology, 1933.

Budzinskaya, Sokolova, S. B.: *Tuberculosis of Breast.* Vestnek Khir. (nos. 56-57) 19: 116-122, 1930.

Cahill, J. A., Jr.: *Tuberculosis of Mammary Gland, Occurrence—Case Report.* S. G. & O. 40: 227-229, Feb. 1925.

Cannata, G. M.: *Primary Case.* Cultura Med. Mod., 8: 923-928, Oct. 31, 1929.

Cupponazo, L.: Pathogenesis, Gazz. d. osp. 49: 1271-1275, October 7, 1928.

Cavina, C.: *Primary Tuberculosis Case.* Clin. Chir. 34: 626-644, June, 1931.

Cecil, P. G. and Wakely: *Tuberculosis of the Breast.* Clinical Journal, 57: 224, 1928.

Charoche, H.: *Review of Literature and Report of Cases.* M. Rec. 140, 77-123, July 18, 1934; August 1, 1934.

Cheatle, Sr., G. Lenthal (& Cutler): *Tumors of the Breast* (Lippincott).

Chen, S. M., *Tuberculosis with Report of Six Cases.* Nat. M. J. China, April, June 30, 16: 244-254.

Cooper: *"Illustrations of Diseases of the Breast."* London, 1829.

Cooper, Sir Astlery: *The Anatomy and Disease of the Breast.* Lee & Blanchard, Philadelphia, 1845.

Cortella, E.: *Primary Tuberculosis of Female Breast, Case With Histology.* Policlinico (Sezprat) 34: 1774-1779, December 5, 1927.

Cutler, Max (with Cheatle): *Tumors of the Breast.* (See Cheatle).

D'Arrigo, M.: *Histologic and Bacteriologic Study.* Reforma, Med. 43: 271-274, March 21, 1927.

Davydoff, G. M.: *Tuberculous Mastitis.* Vestinik khir. (nos. 56-57), 19: 123-131, 1930.

Deaver, J. B.: *Tuberculosis of Breast.* Am. J. Med. Sc. 147: 159-1914.

Deaver: *The Breast, Its Anomolies, Its Diseases and Their Treatments.* 1917, Blakiston.

Delose & Amouroux: *Diagnosis by Kochs Bacillus in Ulcero-Caseous Tuberculosis, Two Cases; Operation, Recovery.* Lyon Med. 141: 202-204, February 19, 1928.

Dickinson, A. M.: *Tuberculosis in Mammary Gland —Case in Male.* American Journal Surg., 3: 595-597, December, 1927.

Dotti, E.: *Case of Male Tuberculosis Breast.* Clin. Chir. 36: 400-08, April, 1933.

Dubor: These de Paris, 1881.

Dunbar, L. E.: *Des Tubercules de la Mamelle.* (Paris) Lelle, 1881.

Dubreml: Gaz. Med. de par., 1888, V 198.

Durante, L. & McCarty, W. C.: *A Report of Ten Cases of Tuberculosis of Breast.* Ann. Surg. 63: 668, 1916.

Ewing, James: *Neoplastic Diseases.* 1928.

Finocchearo: *Primary Tuberculosis with Subsequent Exophthalmic Goitre.* Rinasc Med., 11: 559-560, September 30, 1934.

Fox, B. & Roblee, M. A.: *Tuberculosis of Mammary Gland, Review of Literature and Reports of Six Additional Cases.* Annals of Surgery, 84: 678-690, November, 1926.

Friedlander: *Nothrogel's Evcy of Proctual Medicine.* ("Tuberculosis") G. Corret, P. 25.

Gorofalo, F. & Moachella, E.: *Seven Cases of Tuberculosis of Breast.* Policlinico, (Sez chir), 40: 116-124, February, 1933.

Gatewood: *Tuberculosis of Mammary Gland.* J. A. M. A., 1916, LXVII, 1660.

Gilberti, P.: *With Particular Reference to Male Breast.* Aw di pat e clin d Tuberculosis (tuberc) July 31, 1933, 7:601-615.

Gradwohl, A. B. H.: *Clinical Laboratory Methods and Diagnoses.* 1935.

Grandclaude, C.: *Driessens Five and Teson.* P. (Tuberculosis of Breast), Echo Med. du Nord, January 9, 1934.

Gullotta: *Tuberculosis of Male Breast—Case.* Arch ital di chir, 32: 605-612, 1932.

Halstead, A. E. & Le Count, E. R.: *Tuberculosis of the Mammary Gland.* Ann. of Surg. 28: 685—1898.

Hammant, & Chalnot: *Cases of Tuberculosis of Breast.* Bull. Soc. cl. obst. et de. gyn 23: 428-428, June 29, 1934.

Hartmann, Henri & d Allaines: 8, Bull. Soc. Cl obst. et de. gyn. de Paris, 1924, No. 6.

Heyfelder, O., Heyfelder, F.: *Kalter Abscess an. der Breast.* Klinik Berlin, 3 520: 1851.

Henton, J. W. & Lawson, T. C.: *Tuberculosis of the Breast as Observed at Belleun Hospital of New York City.* Ann. Surg. 83: 170-174, February, 1926.

Jeanneney, G. & Gerenet, H.: (*Tuberculosis of Breast*) lt az d hosp. 105 1545-1552, Oct., 22, 1932.

Jeanneney & Grenet: *Tuberculosis of Breast.* J. de med. de Bordeaux, 109: 814-816, November 10, 1932.

John: *Tuberkulous cle Archsellymphdrusen.* Bectr. Z. Klin d. Tuberk., 64, p. 38, 1926.

Jessel, G.: *Tuberculosis of Mammary Gland.* British M. J. 1: 1023, June 13, 1931.

Jeanu, A. Moisescu V., Theodorescu, D.: *Tuberculosis of Breast.* Rev. cle chir Bucuresti, 35: 229-248, May-June, 1932.

Kleb, C.: *Tuberculosis.* Appleton & Co., N. Y., 1909, p. 73.

Klose: Bertr. z. Klin. Chir., 1910, LXVI, 1.

Klose, H.: *Tuberclose, met. Adeno Carcinoma der Brust.* Druse Bertr. z. Klin chir, 66, 1, 1910.

Kramer: Centralbl of chir, 1888, XV, 867.

Lee, W. E. & Floyd, W. R.: *Tuberculosis of Breast.* Ann. Surg. 99: 753-759, May, 1934.

Leno, G.: *Ascending Canalicular Tuberculosis.* Riv di pat e clin. de tuberc., 1:65-73, June 30, 1927.

Lucchose, G.: *Coexistence of Tuberculosis and Cancer in the Same Breast—Case.* Ann. ital de chir., 10: 217-242, February 28, 1931.

Mahoney, L. E.: *Primary Tuberculosis of the Breast.* Am. J. of Surg., 18: 97-98, 1932.

Morten, W. F.: *Tuberculosis of Bresat.* South. Med. & Surg. 96: 67-69, February, 1934.

Mazzie, T.: *Mammary Tuberculosis of Costal Origin.* Policlinico (Sez prat), 39: 28-29, January 4, 1932.

Miller, Richard H.: *Tuberculosis of the Lymph System.* 1934.

Mirizzi, P. L. & Ferraris, L.: *Tuberculosis Simulativy Paget's Disease of Nipple.* Boly. trab. de la Soc. de cir de Buenos Aires, 16: 245-253, May 11, 1932.

Mitchell, A. P.: *Primary Tuberculosis of the Faucial Tonsils in Children.* J. Path. & Bacteriology, 1917, 21, 248.

Moore, A. E. & Robt. D.: *Acute Tuberculosis of the Breast.* J. Coll. Surgeons, Australasia, 3, 121-122, July, 1930.

Morgen, Maximilian: *Tuberculosis of the Breast.* Surg. Gyn. & Ob., 53: 593-605, 1931.

Morera, P.: Cle costa. G. D., Rev. sud. am. de med et de chir., 4:411-423, June, 1933.

McFarland: (With Deaver).

Norris, Chas.: Gyn. & Ob. Tuberculosis. Appleton & Co., N. Y., 1924, p. 310.

Ochsenius, K.: *Is Mastitis in Adolescents Only of Tuberculosis Origin?* Monstscher of Kindert., 59: 120-122, 1933.

Orthmonri: Virchow's Arch. 1885, c, 365.

Paltrenier, G.: *Primary Tuberculosis in Women, Two Cases.* Policlinico, (Sez prat), 39: 525-527, April 4, 1932.

Pana, C.: *Bilateral Carcinoma Associated with Unilateral Tuberculosis—Case.* Policlinico (Sez. chir) 39: 155-166, March, 1932.

Parks, W. H.: *Relative Importance of the Human and Bovine Types of Tuberculosis.* Bulletin Johns Hop. Hosp. 1910, 21-122.

Parodi, E. & Calvi, F.: *Tuberculosis Lymphangitis in Man, Four Cases.* Rev. di pat e clin d. Tuberculosis, 7: 709-710, August 31, 1933.

Pertile, G.: *Tuberculosis in Man After Prophylactic Antityphoid Vaccination.* Policlinico (Sez. prat) 36: 998-999, July 15, 1929.

Pettiman, V.: *Pathology of Lesions in the Refractory Organs.* Clin chir. 35: 794-824, July, 1932.

Prati, M.: *Tuberculosis and Trauma.* Am. ital. di chir. 10: 697-714, June 30, 1931.

Resnitzhy, A. L.: *Tuberculosis of Mammary Gland Possible Diagnostic Errors.* (Arch. of Klin chir) 179: 519-525, 1934.

Rojas, D. A.: *Case Report of Tuberculosis of Breast.* Semana Med. 1: 373-376, February 1, 1934.

Romeo, M.: Case Tuberculosis, Gior. med. dell alto. adege, 1: 51-68, Dec., 1929.

Schley: Ann. Surgery, 1903 XXXVII, 510, St. Luke Hosp. Rep. 1010, II, 47.

Scott: St. Barth. Hosp. Rep. 1904: 40-97.

Scudder: Am. J. M. Sc., 1898, CXVI, 75.

Sifre, R. J., Mandry, O.: *Diff. Diag., Report of Case.* Bol. Assoc. Med de Puerto Rico, 25: 18-22, Jan., 1933.

Shipley, A. M. & Spencer, H. R.: *Tuberculosis of Mammary Gland.* Ann. Surg. 83: 175-181, February, 1926.

Slanina, P.: *Tuberculosis Breast.* Casop. lek cesk. 68: 1369-1372, Oct., 4, 1929.

Slocher, E.: *Tuberculosis Breast Cases.* Progresos de la clinica. 35: 177-185, March, 1927.

Smith, L. W. & Mason, R. L.: *Occurrence of Tuberculosis and Cancer of Breast—Report of Case.* Surg. G. & Ob., 43: 70-72, July, 1926.

Soupault, R.: *Pseudoneoplastic Tuberculosis—Case.* Bull. et mem. Soc. Nat. de chir., 57: 8-10, January 28, 1931.

Swaux, R. H. J. & Fry, H. J. B.: *Tuberculosis of Male Breast.* British J. Surgery, 14: 234-242, October, 1926.

Tramontano, V.: *Combined Tuberculosis of Breast with Cancer—Case.* Rossegna—internaz di clin. e terap. 9: 328-343, May, 1928.

Tunco, A.: *Amt. of Male Breast for Tuberculosis Process.* Arch ital. di chir., 13: 18-24. Ob. J. A. M. A., 85, 1592, November 14, 1925.

Turco, A.: *Tuberculosis Breast—Case.* Ann. ital di chir. 5: 1001-1011, October 30, 1926.

Vandel. D. T.: *Tuberculosis of Mammary Gland—Case History Study.* J. Missouri M. A. 24: 260-263, June, 1927.

Venetioner. P.: Gyogyaszat. 72: 376-378, June 19, 1932—case.

Verga, P. 1.: *Tuberculosis of Breast. Male and Females.* Arch. per le Sc. Med. 49: 625-647, November, 1927.

Verneml: Prog. Medicale, 1882, 580.

Villord. E. & Martin, J. F.: *Coexistence of Cancer and Tuberculosis in Breast and Axillary Glands.* Bull. Asso. franc, p. letude du cancer, 22: 128-139, February, 1933.

Virnicchi, C.: *Primary Tuberculosis of Breast.* Morgagni. 71: 989-1005. May 12, 1929.

von Elbert: Am. J. M. Sc. 1909, CXXXVIII, 70.

Wakeley, C. P. G.: *Tuberculosis of Breast.* Clin. J. 57: 224-226, May 9, 1928.

Williams, W. R.: 1891—*Polymastism with Special Reference to Mammae Erraticae and the Development of Neoplasms from Supernumeray Structures.* J. of Anatomy and Physiology, 1891, XXV, 234.

Wilson, G. E.: *Tuberculosis of Breast.* J. A. M. A. 102: 128-129, January 13, 1934

Yates, J. L.: *Diseases of the Lymphatics.* Lewis Practice of Surgery.

HEAT PRODUCTION IN BODY

There is no human life without perspiration because it is a basic factor of the normal physical life, Dr. James O. Nall declares in his article "Perspiration—The Thermostat of the Body" in the July *Hygeia.*

It is absolutely essential to the proper regulation of heat in the body. Normally this eliminated water cools the body as it evaporates from the skin surface. The temperature of the sweat at the moment it appears at the body surface is slightly lower than the temperature of the blood. This is a natural decrease in temperature that takes place during the short time required for the sweat to traverse the sweat gland tube to the skin surface.

As the perspiration reaches the surface its temperature changes to that of the surrounding atmosphere which under most conditions is lower than the body temperature. An increase in the surrounding temperature normally stimulates an increased production of sweat. This is a compensatory response by the body and is necessary in the maintenance of its temperature at the average normal figure.

Normal sweat helps to keep the skin moist, soft and pliable. It is aided in this by sebum, the natural oil produced by the sebaceous glands of the skin and constantly secreted on to the body surface.

THERAPY OF NEUROSIS OR NEURO-CIRCULATORY ASTHENIA*

By W. F. DANIELS, B. S., M. D.
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It is not intended here to encroach on cases of true psycopathic or psychiatric nature but to deal with those we see every day; those in which patients complain of pain in some part of their body, palpitation, subjective tachycardia, nervous breakdown or something of a similar nature.

We have all been taught (and very properly so) to rule out any organic lesion that may be the basis before making a diagnosis of neurosis or neurocirculatory asthenia. After that has been done and the diagnosis made, we still have our patient to deal with.

Innumerable drugs and combinations of drugs have been used. The latest coming to our attention is a product containing bellafolin, ergotamine tartrate, and phenobarbital. Various forms of surgery have been used, some minor merely to give the patient something else to talk about, others major as the denervation of the adrenals by Crile with the theory that by cutting off the nerve supply of these glands and breaking the vicious circle, less adrenalin will be secreted in the body, hence less stimulation. These measures have proven to impartial investigators to be only fairly effective.

In judging these measures, no specific has been found. Until something is brought forward for these cases that will fall into the category of diphtheria antitoxin or liver for Addison's anemia, we will have to rely on our approach to the patient and the advice given using the psychology at our command.

Older men, by the weight of their proven ability, gray hairs, bald heads, mustache, beard, etc., are able to tell the patient there is nothing wrong with them or it is their imagination and they are helped.

Some men, after finishing a thorough examination and necessary procedures and finding them negative, find it prudent to tell the patient they have various and sundry disorders, thus focusing the attention on other things while building up the real trouble with sedatives, etc. Six months ago I had a patient come into my waiting room and collapse. Examination revealed a hypertension and a cerebral accident or effusion was feared. However, rest in bed and nitrites soon cared for the hypertension, but a very nervous woman was left with many bizarre symptoms. She was placed on a regime of bromides, bed rest, etc. She seemed better and I lost track of her until a short time ago when she called me and said that a fellow physician had told her she had uremic poisoning, an enlarged heart, a bad liver and she would never get well. She wanted to know why I did not tell her all that. It put me in a spot.

Many times I have tried to make the patient mad, (succeeding most of the time) in hope of diverting their attention to something besides themselves. At least I tried to justify my own impatience with them in this manner. Usually finding that I have started them on their long trek to others, some being doctors, some chiropractors and down the line to downright quacks. Not that most of us mind for we find it very trying to see these patients day after day and listen to their complaints, knowing that if one is finished another will immediately take its place.

A complete change of scenery is often recommended. Undoubtedly it is very good therapy for these cases, but few of us are

*Read before Junior Medical Society, Huntington, West Virginia, May 6, 1937.

fortunate enough to have patients who can afford to change their occupations on our advice or to take that well known trip to Europe.

To treat these patients at home it has seemed more successful to me to make up my mind to spend a lot of time with them. They are assured that their heart and lungs, abdomen, and kidneys are all right, in other words organically they are sound, but they are sick with their nerves, that they need treatment as much as if they had severe scarlet fever or pneumonia. I put them to bed for an extended time, saturating and carrying them along with bromides or sedatives. Regularity is insisted on, certain times are set for their three meals a day, the tray is brought to them, left twenty to thirty minutes and no mention is made of their eating or not. (They will get hungry enough to eat after a while.)

No visitors are allowed. The family is not allowed to sit around and sympathize and hold their hands. Only one person is allowed in the room at any one time and then only for definite nursing duties. The room is darkened for an extremely nervous, excitable patient and brightened for a despondent one. Proper elimination is maintained and a bitter tonic or other medication is added as needed.

An attempt is made to "sell" this regime for the patient to the family and every endeavor is made, for it is needed. They are told that return professional visits will be made at infrequent intervals just to check over the patient, but not often enough to worry them.

After two weeks time, or as improvement is seen, mild diversions are first allowed such as reading, playing solitaire, etc. Then a graduated schedule of allowing up and about is commenced; such as, an hour up in a chair today, two hours tomorrow, and a few steps the next day. Regular calisthenics are highly recommended. On an average six months' time is consumed before the patient is allowed to resume the normal routine of life and then a large amount of rest and quiet is insisted upon.

This plan varies from a simple reassurance of the patient that they are organically sound to a detailed following of this regime as outlined, depending on the severity of their neurosis and at the discretion of the physician.

This paper is brought not as sponsoring something new, but rather with the hope of invoking or inviting a discussion of the perplexing problem of handling these cases.

KNOWLEDGE OF SEASICKNESS

A vacation with a voyage requires of the traveler a special knowledge of a malady peculiar to that mode of transportation; namely, seasickness. Robert Toubib presents his theories on this subject in his article, "Seasickness," appearing in the July *Hygeia.*

Knowledge and precautions acquired beforehand may materially aid the traveler through his first voyage without becoming seasick. He will then catalogue himself among the immune, and in most cases he will be able to remain in that fortunate category for life.

Seasickness is generally used to include the more comprehensive term "motion sickness," because the same symptoms may result from the motion of a train, an automobile, an aeroplane, a camel or even the porch swing.

The theories concerning its cause proceed from two assumptions: that it is derived from a mental attitude and that there is an underlying physical cause. The author cites experiments that corroborate each. Those that derive from the physical elements have this in common: The movement of the sea subjects the body to abnormal continuous irritation. From the eyes, ears, muscles, organs and body cells, unaccustomed stimuli continually bombard the nervous system of the victim until his nervous resistance is broken down at its weakest point.

Frequently, reenforcing the attack of these irritations directly due to motion, there may be secondary irritations: bad smells of tobacco, food, smoke, grease or gasoline; the sight of fellow passengers feeding the fish, or the recital of odious details, in which shipmates revel.

Seasickness is not a specific disease with a specific cause but rather it is a shock resulting from an abnormal stimulus or a combination of abnormal stimuli which are directly or indirectly the result of going to sea.

RUPTURE OF THE AORTA*

(A Case Report With Discussion)

By R. W. CORBITT, M. D., AND A. R. K. MATTHEWS, M. D.
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ALTHOUGH there are a fairly large number of cases of ruptured aorta reported in the literature, it is a condition which is by no means common and above all one which is seldom diagnosed outside the autopsy room. Those on record are predominantly of the so-called spontaneous type and cases which can be associated with chest trauma, either directly or indirectly, are in the minority. Lifvendahl[1] states that numerous examples of such are on record, but Wilson and Roome[2] found only two cases associated with chest injury in the literature of five years preceding 1933. The paucity of such cases, seems to justify the recording of one which came to the Camden-Clark Hospital, pathological service.

Case History: Mr. J. M., age 74 years, white, on April 28, 1936, was struck by an automobile while crossing the street. Multiple fractures of the lower left leg were sustained and severe pain in the upper chest was complained of. X-ray did not indicate any fractured ribs, but confirmed the leg fractures and, incidentally, extensive calcifying sclerosis of the left femoral artery was noted. Moderate shock was evident and therefore reduction of the fractures was delayed. His condition during the next 20 hours did not change, the pulse rate remained around 90 and the respiratory rate varied between 25 and 28. He died suddenly on endeavoring to raise himself to a sitting posture in bed. Wassermann and Kahn were both negative.

Summary of Autopsy Findings: Examination revealed no external marks or bruises in the thoracic region and no rib fractures.

A bilateral serofibrinous pleuritis with some scarring and calcification of both lung apices was found.

The first pertinent feature noted was massive hemothorax in the left chest, the pericardial fluid also was slightly bloody and the mediastinum infiltrated by blood and greatly thickened. There were no pulmonary emboli.

Inspection of the thoracic aorta showed adventitial ecchymosis throughout and partial dissection of this coat. Below the origin of the left common carotid artery, a transverse tear through the wall of the aortic arch was found. This measured two centimeters in length. At this point the wall of the vessel was extremely weak and thin while the entire aorta showed extensive calcifying atherosclerosis.

The heart weighed 500 grams. Its left ventricle was considerably hypertrophied. The aortic valve cusps were thickened and sclerosed. The coronary arteries were in fairly good condition.

Both kidneys were contracted and showed much cortical scarring and irregularity.

Microscopic findings revealed a chronic pulmonary tuberculosis and a chronic arteriosclerotic nephritis. Sections of the aortic wall showed a widespread and marked medial degeneration associated with calcifying intimal atherosclerosis.

Discussion: A case of ruptured aorta is presented in which trauma must be considered as an accessory factor though its exact implication cannot be accurately gauged.

A review of the literature on the subject brings out some salient features. There appear to be two sites of predilection. The most common is immediately above the aortic cusps while the curving arch ranks as a low second in frequency. According to Rindfleisch[3], as cited by Lifvendahl[1], these are

*From the Department of Pathology, Camden-Clark Hospital, Parkersburg, W. Va.

points where the aorta is fixed and most exposed to the effects of increased pressure.

The majority of tears are transverse and extend through the intima and media with subsequent varying degrees of dissection of the adventitial coat. Rupture into the pericardial sac following within several hours or sometimes after several days is the most frequent final and fatal event. In our case this did not occur and the terminating incident would seem to have been a break through the adventitia at the site of the original tear in the intima and media with hemothorax of massive type and sudden death. This course of events is evidentally quite unusual according to reported cases.

FIGURE I. Heart and thoracic aorta, pointer indicates rupture in the arch of the aorta.

The causation, underlying pathology, and characteristics of rupture of the aorta have been dealt with extensively by several authors [1 4 6 5] and Arenberg[6] gives a very complete bibliography of the publications on the subject. The outstanding feature in most cases is destruction and weakening of the media.[3] Defects in the intima are not essential though often coincident in elderly people. Certain cases are reported having normal aortas. In those cases associated with trauma, a defective vessel wall is not always described, but since aortic damage is a common condition and could undoubtedly be a predisposing factor, it seems rather remarkable that rupture of the aorta is not more frequent. Moreover the degree of increase of hydrostatic pressure precipitating the rupture would not seem to be very great in many of the cases recorded.

Despite the infrequency of antemortem diagnoses of this condition there are certain characteristic symptomatic features which should at least suggest the possibility of its presence. These have been outlined and discussed by Norris,[5] and Arenberg[6]. The primary tear is usually accompanied by severe anginal pains. Dyspnea, cyanosis, rapid pulse and more or less shock come in rapid sequence. Depending on the extent and situation of the tear, and the hemorrhage and heart embarrassment, so is the degree of shock. A fall in blood pressure is apparently a significant feature. It seems most probable that the condition is more frequent than we think and if kept in mind should be capable of recognition. Furthermore, it affords an excellent example of the information that may be gained by more frequent follow-ups in the autopsy room.

BIBLIOGRAPHY

1. Lifvendahl, R. A.: *Spontaneous Rupture of the Aorta.* Arch. Path. 8:200, 1929.

2. Wilson, Harwell, and Roome, N. W.: *Traumatic Shock Syndrome Following Rupture of Aorta and Multiple Fractures.* Am. J. Surg. 22:333, 1933.

3. Rindfleisch, E.: *Zur Enstehung und Heilung des Aneurysma Dissecans Aortae.* Virchows Arch. f. Path. Anat. 131:174, 1893.

4. Klotz, O., and Simpson, W. S.: *Spontaneous Rupture of the Aorta.* Am. J. M. Sc. 184:455, 1932.

5. Norris, C. J.: *Transverse Rupture of the Aorta.* South. M. J. 27:733, 1934.

6. Arenberg, H.: *Spontaneous Rupture of the Aorta.* Am. Heart J. 8:217, 1932.

CURE FOR NERVOUS STATE

Since nerves are largely a state of mind, the real cure for them must come from resources deep down within the individual herself, resources which we all have—courage and resolution. Dr. Eoline Church Dubois discusses "The Tyranny of Nerves" in the July *Hygeia.*

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

The steady decline in tuberculosis mortality since 1900 is the result of a variety of cooperative attacks on the disease. The objective of the National Tuberculosis Association has been to coordinate all these forces and to focus them on the *prevention* of the disease. Its statistical studies have proved an invaluable guide in determining effective procedure. The cause of the present lag in the decline of the mortality rate can only be discovered through such studies.

Recent Tuberculosis Figures: The decline in the death rate from tuberculosis from 200 per 100,000 in 1900 to 53 per 100,000 in 1935 indicates a public health achievement with which the people of this country should be fully acquainted. At the same time it should be pointed out to them that there are still 70,000 deaths from this disease annually; that it is the leading cause of death between the ages of 15 and 45, economically and biologically the most productive years of life, and that tuberculosis is an infectious, and therefore a preventable, disease. With these facts clearly in mind the public will not rest content with what has been accomplished. A death rate of fifty provides no final objective. Why not 40, or 30, or 20, or, even better, complete eradication of the disease? There is no reason to believe that these ends are unattainable, but this will depend on the intensification of the present methods of control.

While stressing the gravity of high mortality among young people the fact must be faced that old age, too, makes its serious contribution. For instance, the death rate for 75 years and over was 106 per hundred thousand in 1934, while that for the group 25 to 34 was only 79. In other words, for every thousand old people there are more deaths from tuberculosis than in any thousand young people. Consider the menace of these old chronic cases, living often as they do as unrecognized spreaders of infection in the families of their children and grandchildren. An x-ray study of this group might yield productive leads in a preventive campaign.

Again at the other end of life's span we still face a shocking tuberculosis death rate among infants under one year of age, nearly 40 per cent of the deaths being from tuberculous meningitis. Here is ample evidence of poor work in the field of breaking contacts.

Ten years or more ago statistical studies brought out the fact that the death rate from tuberculosis among young women was well over 50 per cent higher than that among young men. There is evidence that the wide publicity and alarm created by this discovery has had its effect for at the moment there is a definite indication that the existing ratio to the disadvantage of the young women is distinctly less. One might interpret this as statistical proof of the value of publicity in health education.

In a recent study of death rates by occupation, the employed men were divided into groups according to social and economic status. The figures show that for the highest economic group, including lawyers, physicians, surgeons, etc., the death rate from tuberculosis was only 26.2, while the rate considerably increased through the other groups, such as clerks, agricultural workers, reaching the very high figure of 184.9 for the unskilled group. Also, the same study showed that while the tuberculosis death rate in the general population was 71 per 100,000 in 1930, the tuberculosis rate for men 15 to 64 years of age gainfully employed was 87 per 100,000, being 23 per cent higher than the average. All these facts point to the necessity for some strenuous efforts to be put into the field of industry.

While the tuberculosis rate among the colored is three and one-half times that of the whites, their rate likewise is declining, dropping 65 per cent from 1910 to 1934. The white rate in the same period declined 70 per cent. We have only begun to supply any kind of special sanatorium or clinic care for Negroes. As they constitute 11 per cent of our United States population, it is vital to control the high rate among them if we hope to eliminate tuberculosis.

With the general decline in the tuberculosis rate there have been corresponding declines at all ages and in both sexes. The declines, however, have not been uniform. In childhood (up to 15 years of age) have occurred the greatest decreases, while the rates for the middle-aged group and the aged have not declined as fast. The rate for young men has declined faster than that for young women.

Of equal interest with the statistical study of mortality rates is that of the declining rate of morbidity from tuberculosis. Many years ago von Pirquet, in Vienna, and more recently Hetherington, in Philadelphia, reported 70 to 90 per cent of infection with tuberculosis among the general population. While true for the situation in Vienna at the time of von Pirquet's report and of a group in

Philadelphia living under unfavorable conditions, the figures do not represent truly the general infection rate for the United States today. The MA-100 study carried out by the National Tuberculosis Association from 1932 to 1934 included 12,000 individuals in widely scattered urban and rural areas and, covering ages from one to twenty and over, gave an average 26 per cent of infected persons in the population studied. The range was from 19 per cent of those under one year of age to 46 per cent of those aged twenty and over. Further tests are under way with P.P.D. and the tabulation of 40,000 cases similarly studied will soon be available for comparison with the MA-100 list. It is doubtful that the results will show an adult rate of infection running over fifty per cent.

A striking statistical study in the tuberculosis field is the increase of beds for the tuberculous. In the *Journal of the American Medical Association* for December 7, 1935, is the report of a sanatorium survey which gives the number of beds for the tuberculous as 95,198. Of these nearly 15,000, or 15 per cent, were located in general hospitals, an interesting observation and one that may have its ultimate influence on sanatoria used exclusively for tuberculous patients.

A further trend in this direction is evidenced in a study made in 1935 which showed that in the state of Wisconsin 18 per cent of the tuberculosis deaths occurred in general hospitals. Undoubtedly the modern methods of surgical treatment of the tuberculous have brought about this change.

In 1933, Dr. Bruce Douglas, chairman of the Committee on Treatment, reported that of 29,211 patients in 112 institutions of 100 or more beds, 39 per cent had received or were receiving some form of collapse therapy. In six institutions over 70 per cent of the patients had been or were being treated by collapse therapy. According to the study of the American Medical Association, a total of 406 sanatoria and 101 of the principal tuberculosis departments of general hospitals are equipped with facilities for pneumothorax and administer over 500,000 treatments yearly.

Statistics regarding the staggering investments in institutions for the care of the tuberculous and the annual cost of their maintenance present cogent arguments for intensifying the preventive aspects of tuberculosis work. The valuation of the institutions themselves runs over $329,000,000 and the annual cost of maintaining them amounts to $76,000,000.

Of all statistical studies into the mortality and morbidity from tuberculosis none is more interesting than that of geographical distribution. Granting the well-known fact that urban rates exceed those of rural areas it is still somewhat of a mystery why some states show such an amazingly low mortality. For instance, Wyoming has the lowest rate for 1934, a mere 18.5 per 100,000; Nebraska and Utah have rates of 21 plus; Iowa and North Dakota, rates of 25. All in all there were 13 states with tuberculosis rates less than 40 per 100,000 in 1934 including Oregon, Maine, Minnesota and New Hampshire.

Dr. Dauer, of Tulane University, by constructing a map showing death rates from tuberculosis by counties, has demonstrated a series of endemic areas of tuberculosis, which follow no artificial state boundary lines. Dr. Dauer is extending this study to cover the whole United States and the results of it will be of extreme interest.

It may be advisable to put intensive efforts on such highly infected areas rather than to attempt to cover whole states in which large areas are almost devoid of tuberculosis.

A Resume of Recent Tuberculosis Figures, Jessamine S. Whitney, Statistician, National Tuberculosis Association, 50 West 50 Street, New York, N. Y.

POISONOUS SNAKEBITE

Since the danger from snakebite is greater in America today than ever before in civilized times, it behooves the vacationer to prepare for this ever increasing menace. Marie Seacord Lilly and Dr. Dudley Jackson discuss the proper precautions in their article "Snakebite," which appears in the July *Hygeia*.

In case of snakebite, do not run. Do not give alcoholic stimulants; whisky is no cure for snakebite. On the contrary, it stimulates the circulation and increases the distribution of the venom, which is exactly the thing to be avoided. The patient should be kept as quiet and as calm as possible.

If prostration or giddiness develops, coffee may be given. Bear in mind that the venom of our native snakes acts slowly. Apply the tourniquet between the bite and the body, if possible. Twist it tightly enough to mash the tissues against the bone but not tightly enough to stop the circulation, as the venom travels through the system in the lymph, not in the blood stream.

PRESIDENT'S PAGE

A few weeks ago, as members of the West Virginia State Medical Association, we all received questionnaires which should be filled out by those who desire to participate in the state-wide program of adult physical rehabilitation. The questionnaires were sent to us by the Public Assistance Advisory Committee of our State Association. This Committee is guiding the rehabilitation program of the State Department of Public Assistance.

The replies to these questionnaires will be used by the Committee as a basis for compiling a list of West Virginia doctors who are competent and qualified to do rehabilitation surgery. This list will be made up by the Committee, assisted by duly authorized representatives of the specialties involved. When the list is completed, it will be turned over to the Rehabilitation Department and future cases will be assigned in alphabetical rotation. Heretofore, cases have been assigned to hospital heads for reassignment to staff surgeons.

With this brief explanation of the situation, I wish to pay tribute to our Public Assistance Advisory Committee for its vigor and courage in dealing with the problem at hand. I can think of no more thankless task than that of preparing a list of qualified surgeons. As a practitioner in that particular field, I know that all surgeons have supreme confidence in their own ability. While this self-confidence may be a virtue in the individual, most certainly it will be a nightmare of embarrassment to our Advisory Committee. When I think of the letters of protest that will pour in from surgical aspirants who are not included in the qualified list, I marvel at the bravery of our Committee in forging ahead with its plan. We need more such Committees.

In calling attention to this important Committee assignment, my main purpose is to request our Association members to withhold any ill-humored criticism. A reliable roster of our qualified surgeons will fill a long-felt want in this state. We have the list of Fellows of the American College of Surgeons. We have lists of those who have qualified before the various specialty boards. Never before has it been necessary to attempt to make an inventory of the surgical talent of our own membership. The rehabilitation program is an extremely important undertaking. Not only will the surgical successes and failures be recognized and remembered locally but the percentages of success and failure will be publicized throughout the state. We must do the work so well that it will reflect credit on the whole profession. We must choose from our ranks those who are best qualified to serve in this capacity.

In closing, I wish to compliment our Committee for its forwardness and courage in undertaking this important and thankless task, and also to thank the members of the Committee individually for the unfailing support they have given me as a member of the State Advisory Board of Public Assistance.

President.

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ON SOCIALIZED MEDICINE

From Maryland, from Florida, from North Carolina and many other states come resolutions denouncing the proposal to socialize medicine in the United States. What proposal?

Fortunately the proposals to socialize medicine are many. Otherwise the danger of socialization as an immediate prospect would be much more alarming than it is at the present writing. We are not attempting to minimize this danger. In this era of changing conditions we find sufficient cause for the concern of every doctor in America. But we do not feel that the prospect of socialized medicine is quite as acute as it is made to appear.

The thought which we wish to convey to our readers is that perhaps we may be fighting too hard against a condition that has not as yet reached the acute stage. We feel it is quite possible that the condition is being aggravated and the acute stage hastened by the almost frenzied medical protests brought to us each morning by the postman. The Eastern Seaboard deplores, the South decries, the Midwest laments, the Rocky Mountain area disparages and the West censures the situation as it exists today.

If the condemnatory resolutions sent out by various medical groups reached the lay public, they would no doubt accomplish a very useful purpose. But, instead of reaching the public, they reach only the medical profession. Exceptions are rare. We believe these resolutions, because of their number and their fatalistic attitude, will eventually have a tendency to destroy the morale of our fighting troops.

"The socialization of medicine is bound to come." We have heard that statement all too often. It invariably comes from the lips of our own members. We dislike this attitude. It sounds like we are licked before we start. If the socialization of medicine does come, we believe its appearance will be hastened by this attitude of the medical profession. Of one thing we are sure. If the socialization of medicine is left to the individual states, West Virginia will be the last to yield.

We are a great believer in preparedness. We believe that the physicians of America should be thoroughly aroused and prepared with facts and figures to fight against any and all unreasonable inroads upon the practice of medicine. We are not opposed to resolutions, but we are against the presumption expressed in many of them that socialized medicine is "just around the corner." We can't visualize a general telling his army that a pending battle is lost before it begins.

The position of organized medicine toward socialization is well known to practically every senator, congressman and legislator in the United States. It is fitting and proper that we should renew our opposition from time to time. But would it not be more effective to enlist new troops. Our friends in the legal profession, our manufacturers, our business men and our vast network of service clubs are all essentially opposed to the principles against which we are now fighting. Expressions of opposition to socialistic medicine from such groups would help us greatly. We believe it would be good strategy to seek the favor of these potential allies and enlist them in our cause. To do so would help to restore the morale and confidence of our individual doctors which now seem to be at a low ebb. At the present time, perhaps many of us are becoming frightened by our own noise.

AMBULANCE CHASING

We have just been advised that the Illinois legislature recently defeated House Bill 10 to prohibit ambulance chasing within the confines of that great commonwealth. This victory for the followers of this national legalistic pastime insures at least two more years of this exciting sport in the home state of the American Bar Association.

While ambulance chasing has been prevalent in West Virginia for a number of years, it has never been recognized here as an organized sport. A few of our more adept West Virginia ambulance chasers have attracted local and even statewide attention, but none of them so far as we know has ever entered national competition. A few years back, Charleston developed a potential national contestant but he was disqualified in 1935 when he mistook a hearse for an ambulance and followed it for seven miles before discovering his error. Mistakes of this sort are rarely made in the larger competing centers such as Chicago, New York and Los Angeles.

The medical profession has always been interested in ambulance chasing because this sport often results in malpractice suits against doctors. Of course the chief concern of a seasoned ambulance chaser, after finding an accident, is to bring suit against the party or parties involved. But once this is done, any ambulance chaser worthy of the name will cast about for other victims, and his prestige will be raised considerably if he can add a doctor to his list of defendants. For this reason the medical profession would like to close the season on ambulance chasing entirely.

We have two prospective solutions of the ambulance chasing problem which we would like to suggest to some of the larger states. Our first suggestion calls for an annual license fee for ambulance chasers, with a license button or badge to be worn on the upper coat sleeve to indicate that the wearer has complied with all the provisions of the law. A stiff penalty should be provided for violators. Any licensed group is easily controlled by state regulation and it would not be difficult, with licensed ambulance chasers, to fix a bag limit on accidents. Just for example, Illinois might fix a bag limit of two accidents a week or 100 a season and expect reasonable compliance by revoking the licenses of all ambulance chasers who exceeded this limit.

The second and perhaps the best suggestion is to place a bounty on ambulance chasers themselves. If the Illinois legislature would pass a law to give $25 to any person who bagged an ambulance chaser, we believe the species would soon be eradicated. If $25 is too much, there might be a graduated bounty; say $10 for an ambulance chaser weighing less than 150 pounds and $20 or $25 for ambulance chasers weighing more than that figure. That would get rid of the big fellows first; not a bad idea in itself.

While we are interested in ambulance chasing, we suppose we will have to leave the problem with our legal friends. And, while we wish them success, we confess a feeling of guilty comfort that problems exist in other professions as well as our own.

SCIENTIFIC PAPERS FOR 1938

The first meeting of the Association's Committee on Scientific Work will be held about the first week in September. Dr. E. B. Wright, chairman, is anxious to begin work as soon as possible on the program for the 1938 meeting at White Sulphur Springs and expects to call a meeting of his committee and the various Section representatives as soon as summer vacations are over.

In reminding the membership of this coming meeting, the JOURNAL desires to point out that all requests for program assignments should be in the hands of the Program Committee by September first. Members who desire to read papers or who have program suggestions for the 1938 meeting should get in touch with Dr. Wright at Clarksburg. Members who desire to give papers before one of the Sections will find the complete list of Sectional officers on page xii in the front advertising section of this JOURNAL issue.

TWENTY-FIVE YEARS AGO

(From the August, 1912 Issue of the West Virginia Medical Journal)

STATE NEWS

It is worthy of note that Dr. N. R. Price rode horseback from Marlinton, 62 miles to attend the Webster Springs meeting of our State Association, and was able to play a good game of baseball after his arrival. Would that we had more of such enthusiasm among our members, many of whom find it difficult to attend medical meetings in their own county.

The Ohio County Tuberculosis Sanatorium "View Point" is in successful operation, with a number of patients under treatment. This institution is well located, five miles from Wheeling on the hills overlooking Elm Grove.

* * * *

OUR FORTY-FIFTH ANNUAL MEETING

We are growing old. Our existence began away back in 1867 on the hilltop at Fairmont, and this year a Fairmont man, faithful to the cause for many years, presided with ability over the deliberations of our State Association and kept things going, even calling down some of our visitors with a gentle rap of the ivory gavel that he knew so well how to handle. This is the way to keep up the interest in a meeting, otherwise some of the long-winded ones will unconsciously make things rather dull. All will agree that President Henry is an excellent presiding officer.

The Webster Springs meeting was a success. Ninety-four members and guests were in attendance, and interest was added to the occasion by the presence of quite a number of the wives and daughters of the members, who helped the wifeless ones to pass some enjoyable hours in the intervals of the meetings. We may be in error, but it has always seemed to us that no body of men get quite as close to each other as do physicians at these annual gatherings.

Webster Springs is an ideal place in which to hold a scientific gathering. . . . Here are no side attractions to draw the members away from the place of meeting, no roar of trade, clatter of machinery, puffing of railroad engines, tooting and rattle of automobiles to disturb the serenity of the place. It is out of the beaten path of travel, and only reached by one train a day and that on a narrow gauge road.

The next meeting is to take place at Charleston in May. The change from Autumn to Spring was made by unanimous vote. Let us get ready to have the largest meeting in the society's history at the State Capitol next May.

* * * *

Original articles in the August, 1912 issue of the JOURNAL were contributed by Doctors C. O. Henry, S. MacCuen Smith, W. J. Judy and C. D. Lind.

* * * *

FOR SALE—A ticket to an Eastern Postgraduate Medical School, at a reduction in price. Apply soon or you will get left.

* * * *

At a meeting of the Council at the Webster Springs meeting the following doctors were present: Dr. H. P. Linsz, chairman; Councillors Jeffers, Johnson, Link, Oates, McDonald, F. L. Hupp, president-elect; A. P. Butt, secretary.

OBITUARY

DR. JOHN F. BIGONY

Dr. John F. Bigony, sixty-eight years old, well known and prominent physician of Hinton, W. Va., died June 12 at his home of complications of several years standing.

He was born near Baltimore, Ohio, May 22, 1869. He attended schools in Ohio and taught for some time. He graduated in the class of 1891 at Lebanon University where he received his M. D. degree. He took postgraduate work at the University of Cincinnati and the Philadelphia Polyclinic. After receiving his medical degree he practiced for a time in Ohio. He came to Hinton and established his practice forty-three years ago where he was active and successful in his profession until about two years ago when his health failed. His eldest son, Dr. J. Charlton Bigony, has been associated with him for several years.

Dr. Bigony was a member of the school board of Hinton, member of his county and state medical society and the American Medical Association. He was also county and city health officer. Surviving Dr. Bigony are his wife and four children.

COUNTY SOCIETY NEWS

CABELL COUNTY

The annual banquet and golf tournament of the Cabell County Medical Society was held at the Guyan Valley Country Club near Huntington on the afternoon and evening of July first. Members of the Society competed with members of the legal fraternity in the golf tournament and suitable prizes were presented to the winners. Dr. A. D. Kessler was in charge.

CENTRAL WEST VIRGINIA

The next meeting of the Central West Virginia Medical Society will be held at Webster Springs on the evening of August 7, 1937. The chief speaker of the evening will be Dr. W. S. Fulton, Wheeling, President of the West Virginia State Medical Association. Dr. C. W. Waddell, Fairmont, President-elect of the Association, will also be present and is expected to make a short talk. In view of these two distinguished guests, a large turnout is expected.

In addition to the speakers above-mentioned, efforts are being made to secure the new motion picture on "Syphilis" recently completed through the joint efforts of the American Medical Association and the United States Public Health Service.

A. B. BOWYER, *Secretary*.

LOGAN COUNTY

The postgraduate conferences sponsored jointly by the State Association and the State Health Department took the place of the regular July meeting of the Logan County Medical Society. The first lecture was held on July 14 with 14 members in attendance. The lecture by Dr. Plass was very instructive and practical and the members in attendance felt that the course would be very beneficial.

J. LESTER PATTERSON, *Secretary*.

OHIO COUNTY

The program year of the Ohio County Medical Society closed with the annual golf tournament and banquet at Wheeling on the evening of June 3, 1937, with a fine turnout of members and visiting doctors. The golf tournament was held at the Cedar Rocks Country Club with suitable trophies for the victors. An open house for non-golfers was held at the Jesters Club, Wheeling, during the hours of the tournament. The banquet was held at the Jesters Club at six o'clock that evening.

This was a most enjoyable occasion and closed the activities of the society until fall. The committee in charge consisted of Dr. William C. McCuskey, chairman; Dr. H. T. Phillips and Dr. James K. Stewart.

PRESTON COUNTY

The Hopemont Sanitarium near Terra Alta, Dr. A. V. Cadden, superintendent, and staff members, were hosts to the Preston County Medical Society and guests at the annual Sanitarium dinner and meeting held on Friday evening, July 23, 1937. There was an excellent attendance of doctors from the entire northern section of the state.

The speaker of the evening was Dr. R. R. Sayres, Senior Surgeon and Chief of the Division of Industrial Hygiene of the United States Public Health Service, Washington, D. C. His subject was "Silicosis" illustrated with lantern slides.

GOLDEN CLINIC DAY

The annual seminar presented by the Golden Clinic of the Davis Memorial Hospital, Elkins, was held at Elkins on Wednesday, July 14, with a good attendance of doctors from over the state. The meeting opened with case presentations by members of the hospital staff at 8:30 o'clock and this was followed by a luncheon at the Randolph Hotel with Dr. R. J. Condry, Elkins, in charge.

The afternoon sessions were held at the Elkins High School auditorium. The program consisted of a paper on "Tumors of the Kidney," by Dr. Lawrence R. Wharton of Johns Hopkins Hospital, Baltimore; "Heart Diseases," by Dr. Roy Wesley Scott of Western Reserve University, Cleveland, and "Tumors of the Abdomen" by Dr. Louis Hamman of Johns Hopkins University School of Medicine, Baltimore.

Following an afternoon tea for the visiting doctors and their wives at "Graceland," home of Mr. and Mrs. John Kennedy, a banquet was held at the Davis Memorial Presbyterian Church with Dr. J. Ross Hunter, Charleston, as toastmaster. The guest speaker of the evening was Dr. Lawrence A. Pomeroy of Western Reserve University, Cleveland, who gave a most enlightening address on "New Names for Old Tumors." This was followed by an "Open House" reception at the home of Dr. and Mrs. B. I. Golden.

GENERAL NEWS

WAR ON QUACKS

Action of the Raleigh County Medical Society at its meeting on May 20 resulted in the arrest of two negro physicians of Beckley on July 19. Co-operating with local law enforcing groups and the state police, the society furnished sufficient evidence to hold the negro physicians for the grand jury when they were arraigned for preliminary hearings.

One of the physicians, Dr. A. D. Belton, is charged with murder in connection with the death of an 18 year old white waitress in Beckley last month. Belton is alleged to have performed an illegal operation on the girl. The second physician, Dr. Robert J. Howard, is charged with abortion. It is asserted that he performed the operation upon a young white girl of Beckley, who is in a critical condition in a Beckley hospital. Howard is being held under $5,000 bond.

PUBLIC HEALTH MEETING

The annual meeting of the American Public Health Association will be held in New York on October 5-8, 1937. Among the subjects to be presented at more than 100 sessions of the assembly will be nutritional problems, water borne diseases, the crippled child, and syphilis in industry. There will be an intensive three-day institute on public health education before the annual meeting begins, under the direction of Professor Ira V. Hiscock of Yale University.

The American Association of School Physicians, the National Organization for Public Health Nursing, the Federation of Sewage Works Operators and several other allied national groups will join with the American Public Health Association in a series of scientific sessions. Leading figures who will participate in the meeting will be Surgeon General Dr. Thomas Parran, Mayor LaGuardia of New York City and Governor Lehman.

HEALTH COUNCIL MEETS

Dr. Walter E. Vest, Huntington, was elected President of the Public Health Council of West Virginia at the Fairmont meeting in July. He succeeds Dr. Albert H. Hoge who served the Council for two terms as president. A resolution of appreciation for the services rendered by Dr. Hoge was passed by the Council.

The July meeting of the Council was the second largest ever held with 56 applicants for licensure. Of these, 36 took the examination and 20 applied for reciprocity. Names of the successful applicants have not yet been released.

The license of Dr. G. M. Sturgill of Fort Gay, West Virginia, was revoked for violation of the Harrison Narcotic Act.

The Council set up rules and regulations for tourist camps and trailers and authorized the display of an "Approved" sign for all camps meeting the health department requirements. The new regulations, effective July 15, call for proper drainage of camps, adequate sanitary accessories, proper sewage and garbage disposal, supervision, safe water supply and adequate refrigeration for milk and food supplies. It is estimated that only 10 or 12 camps in the state meet the new health requirements, but it is felt that the new regulations will stimulate sufficient interest to bring about better health conditions in all tourist camps in the near future.

NEW COMMITTEES

Dr. W. S. Fulton, Association President, has recently announced the appointment of the new Syphilis Committee which was urged by Surgeon General Thomas Parran at the Clarksburg meeting. Dr. W. M. Sheppe, Wheeling, is chairman of the Committee with Dr. Ray M. Bobbitt, Huntington, and Dr. Amos H. Stevens, Fairmont, as the other two members. The committee will cooperate with the State Health Department and other agencies in working toward syphilis control in West Virginia.

Dr. Fulton has also announced the appointment of the Committee on Constitution and By-Laws, with Dr. Albert H. Hoge, Bluefield, chairman, and Dr. Claude Smith, Charleston, and Dr. J. Lester Patterson, Logan, members. The committee expects to complete publication of the revised constitution and by-laws early in August.

MEETING IN MARYLAND

The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland will be held at Hagerstown on Monday, September 7, 1937. Headquarters will be at the Washington County Hospital. Guest speakers will be Dr. Frank H. Lahey and Dr. Samuel F. Marshall of the Lahey Clinic, Boston. Social features will include a noon luncheon, afternoon reception and evening banquet.

INDIGENT MEDICAL CARE

A report on expenditures of the Public Assistance Department for medical care of the indigent for the first six months of 1937 has just been secured and will no doubt be of interest to the profession; particularly to those members who have actively participated in the medical relief program. For the six months period, a total of $246,021.60 was spent for both hospitalization and medical care. Of this amount, $145,337.32 was spent for hospitalization and $100,684.28 for medical care.

The complete breakdown for the first six months of 1937 follows:

	Hospitalization	*Medical Care*
January	$ 5,008.52	$ 3,011.12
February	15,203.50	10,868.37
March	22,363.08	16,116.06
April	24,541.02	20,592.52
May	25,233.77	18,742.15
June	52,987.43	31,354.06
Total	$145,337.32	$100,684.28

The Department of Public Assistance reported that on June 1, 1937, after four months of operation, a total of 686 cases had been handled at an average cost of $114.45 per case, or an overall medical and hospital cost of $78,512.70.

BOARD OF OBSTETRICS

The next written examination and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology will be held in various cities in the United States and Canada on Saturday, November 6, 1937.

The next general examination for all candidates (Groups A and B) will be held in San Francisco, Cal., on June 13 and 14, 1938, immediately prior to the American Medical Association meeting.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pennsylvania. Applications for these examinations must be filed in the secretary's office not later than sixty days prior to the scheduled dates of examination.

CANNED FOODS

A second book containing scientific facts on commercially canned foods has recently been published by the American Can Company, compiled by the Nutrition Laboratory in the Research Department of the Company. The book, "Nutritive Aspects of Canned Foods," has been prepared for doctors and scientific workers with canned foods. The earlier book, "Facts About Commercially Canned Foods," was published last year.

The book is a general summary of facts about tin containers and canned foods. It is divided into two sections. The first deals with the preservation of foods, dietary requirements, the mineral and vitamin conservation in canned foods, infant nutrition, and the safety of canned foods under modern methods of packing. Section two takes up the manufacture of the cans, including the tinplating, enameling, and a description of can sizes. It also discusses the canning procedure from the raw materials through the sealing of the cans and the heat processing.

The back of the book contains an appendix of reference tables of all kinds. There are charts on human energy expenditures, dietary requirements, mineral and iodine content of various foods, and analyses of canned foods of many kinds. A bibliography contains an appendix of references to the more complete works on each phase of the industry as well as the general texts used in preparation of the book.

STERILIZATION SURVEY

A survey to determine whether or not some persons on relief rolls are not there because of congenital physical and mental handicaps is now being made by the West Virginia Department of Public Assistance. It is understood that sterilization may be advocated by the Department if results of the survey warrant.

Speaking recently before the Exchange Club in Charleston, Director A. W. Garnett inferred that a law might be introduced at the next session of the legislature with a view of advocating sterilization as a prerequisite for receiving classified relief. Classified relief consists of aid to the blind, old age assistance, and aid for dependent children.

"The liberal social consciousness of the last few years," said Mr. Garnett, "has placed the state and nation in the position of caring for the weak and the unfit. These people reproduce five times as fast as the class which takes care of them. Before, the natural law of selectivity of survival of the fittest kept their numbers down. Now, however, with care being exercised for their welfare, they will soon exterminate the class which provides for them."

Mr. Garnett stated that most of the relief cases handled by his department could be traced to congenital physical and mental handicaps which had made them unfit for competition in the modern world.

MAXWELL ANNIVERSARY

Dr. and Mrs. Cyrus H. Maxwell of Morgantown celebrated their golden wedding anniversary at their home on July 6, 1937. All the Maxwell children and grandchildren, together with numerous friends and patients were present. Dr. Maxwell, past president of the West Virginia State Medical Association, has been in practice in Morgantown for the past 35 years and is still actively engaged in his profession.

Dr. Maxwell was born in Tucker County in 1863. He received his preliminary education in West Virginia and studied medicine some years later at Colorado University and the Rocky Mountain University. After several years on the west coast he returned to West Virginia to begin his practice. Mrs. Maxwell, born Melvina Jane Adams in the Limestone Mountains near St. George, West Virginia, attended Fairmont Normal School after receiving her high school education at Kingwood.

An interesting pamphlet was published in connection with the Maxwell golden wedding anniverysary, giving a brief history and many colorful sidelights upon the lives of Dr. and Mrs. Maxwell.

REHABILITATION FIGURES

Some interesting figures showing results of the work of the Department of Adult Physical Rehabilitation have just been released by Mr. Charles W. Ritter, director. The figures cover the period since the inauguration of the program about March first to and including June 30, 1937. During that period a total of 732 patients were hospitalized for remedial defects and 368 of that number had been discharged from hospitals after surgical treatment.

Of the 368 patients upon whom treatment had been completed by June 30, 112 had resumed work in private employment and 137 were eligible for and seeking private employment. There were 119 patients still in the convalescent stage. In addition to those hospitalized, 233 patients were supplied with artificial limbs and prosthetic appliances.

Mr. Ritter stated that the average cost per case amounted to $80.09 and that the administrative expense of operating the program amounted to 4.8 per cent. He stated that approximately 10 per cent of rehabilitation cases were classed as "humanitarian." The department expects to hospitalize approximately 250 cases per month for the remainder of 1937.

Among the major conditions treated were hernia, 277; impaired vision, 161; fractures, 64; cystocele and rectocele, 47; cataracts, 40; goitre, 31; gallstones, 25, and tumors, 22.

ADVICE TO YOUNG SOCIAL WORKERS

First, we must all have an awareness of the scope of the program to which we are making our contribution. It starts with birth control clinics. If they fail, we have a program of prenatal care; we wind up with an XYZ project to improve the cemetery.

We must have a deep sense of responsibility for the correct interpretation to the people of the techniques they should follow in planning their lives from the cradle to the grave and of the fearful results that might come to society should we fail to make clear to them the implications involved in their failure to follow our advice.

Since so many of you have come so recently into the field of social work, I feel it my duty to apply some of the principles of case work in the correction of your language. Let me quote some of the words I have heard used and point out the correct ones:

I am told that one worker said, "I called upon Mrs. ————." That immediately stamps you as an amateur. The New York School says "I contacted them." Naturally the Chicago School would not use a word that had been used by the New York School so it says, "I interviewed them."

Never say you "started something." Say, "I motivated it."

You never, never adjust anything or anybody, you orient.

At least every third sentence, you must say "By and large." Of course you never explain anything, you "interpret." For goodness' sake, never say you have a "position" or "job," say, "I am making a contribution."

Never make a plain, direct statement; always say, "speaking in terms of." Never "complete a job"; always "follow through."—*Anonymous.*

THE BIRTH OF A BABY

Forty-five hundred physicians and their wives attended the preview, at the Atlantic City Session of the American Medical Association, of the new talking picture film of The American Committee on Maternal Welfare. The film was received with spontaneous enthusiasm and considerable praise of the acting, the photography, and of the great teaching work done by the committee. Complete absence of advertising was noteworthy.

The public exhibition of this film will be as ethical as was its production. It will first be shown to each state medical society, or, in the larger cities, to the city or county medical society. Upon its official approval, the film will be exhibited in every important community in that state or city. Local physicians and their families will be given a special free showing at one of the local movie houses, after which the film will be made available to the public, with whatever age restrictions, if any, may be recommended by the local medical society.

The film advertises no thing, person, or firm. It has only one objective: to educate the public to the need for maternal care and the value of the physician's services. Reaching millions of persons in the theatre, the film may well prove to be the most powerful single influence for effective public education that has yet been made available to the medical profession.

Every detail of the public exhibition of the film is carefully controlled: The exhibitor cannot add any sex or advertising picture in the same program with "The Birth of a Baby." Only approved lobby photographs, signs, newspaper stories, etc., may be used. In other words, every precaution is taken to the end that this picture may remain dignified and forceful in its purpose of educating mothers and prospective mothers on the importance of maternal care.

The profession is indebted to the untiring efforts of the members of the Sub-Committee of The American Committee on Maternal Welfare and also to Mead Johnson and Company whose generous financial aid and intelligent cooperation has made this important picture possible.

COLLEGE OF PHYSICIANS

The Twenty-second Annual Session of the American College of Physicians will be held in New York City, with headquarters at the Waldorf-Astoria Hotel, April 4-8, 1938.

Dr. James H. Means, Boston, is President of the College, and will have charge of the program of general scientific sessions. Dr. James Alex Miller, New York City, has been appointed general chairman of the session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of round table discussions to be conducted at headquarters.

CONGRESS OF PHYSICAL THERAPY

Announcement is made of the sixteenth annual clinical and scientific session of the American Congress of Physical Therapy, September 20, 21, 22, 23 and 24, at the Netherland Plaza Hotel, Cincinnati. The program includes many special features: sectional meetings in the specialties, symposia on short wave diathermy, hyperpyrexia, electrosurgery, etc. Fever therapy and the treatment of vascular diseases occupy an important place and will be discussed by prominent workers in the field. The educational aspects of physical therapy and the relationship of physical therapy technicians to physicians and hospital departments will be thoroughly dealt with. Other features include technical and scientific exhibits and a full day of hospital clinics where technique will be adequately demonstrated.

Physicians, their technical assistants, and nurses working in institutional departments of physical therapy are invited to attend this session. There will be no registration fee.

LEPROSY CONFERENCE

Arrangements are being made to hold the fourth International Leprosy Conference in Cairo, beginning on the 21st of March, 1938. This conference is being organized by the International Leprosy Association, and this will be the first International Conference to be arranged by this association since its inauguration in 1931. Three previous conferences of this nature have been held—at Berlin in 1897, at Bergen in 1909 and at Strassbourg in 1923.

The Egyptian government is inviting all countries concerned to send official delegates. In addition to these, doctors and others interested in the subject are invited to be present. Full information can be obtained from the Secretary of the International Leprosy Association, 131 Baker Street, London, W.1.

OLD AGE PENSIONS

From time to time in the past several months, the Association headquarters has received inquiries from mine doctors wanting to know whether or not they should pay the social security tax for old age pensions. It is generally assumed that a doctor who collects the entire check-off for medical service and whose relationship to his patients is that of private family physician is exempted from the tax. While this is generally correct, there are no doubt some exceptions.

The office of the Internal Revenue Service at Parkersburg writes as follows, with reference to mine physicians:

"It is not possible to advise definitely on this matter as it depends upon the contract which the individual doctor has with the coal company. In most cases, the doctor is considered an employee of the coal company. However, the Bureau of Internal Revenue prefers to rule on each individual case after considering the provisions of the contract entered into between the two parties."

The contract between physician and coal company generally applies only in cases where the physician is employed on salary by the company, the company collecting the check-off for medical service. In such cases the physician must pay the social security tax for old age pensions . . . and he'll probably need it when he's sixty-five.

REPORTS OF A. M. A. OFFICERS

The following is an abstract of the Reports of Officers, which appears in the *Journal of the American Medical Association*, May 1, 1937.

REPORT OF THE SECRETARY

Membership.—The number of members enrolled on Apr. 1, 1937, was 105,460.

Fellowship.—The number of Fellows of the Association, as shown by the official roster on Apr. 1, 1937, was 66,296.

American Medical Association Bulletin.—Publication of the *American Medical Association Bulletin* has been discontinued by order of the Board of Trustees, and a special section known as the Organization Section of *The Journal* has been substituted. For a number of years the *Bulletin* was issued as a monthly periodical during nine months of each year but did not serve as a satisfactory medium for the timely publication of important information pertaining to organization and medical economics. The circulation of the *Bulletin* was limited almost entirely to Fellows of the Association, whereas *The Journal* reaches directly a much greater number of physicians than is included in the Fellowship of the Association and, as a weekly publication, provides facilities for more timely presentation of matters of general interest.

Annual Conference of Secretaries of Constituent State Medical Associations.—This annual conference offers an opportunity for the executive officers of state medical associations and the editors of state medical journals to consider together problems of common interest, to secure information concerning methods and procedures that are used most effectively in organizational matters in the several states, and to familiarize themselves with the facilities of the American Medical Association that can be used for the benefit of the component and constituent units of the organized profession in the United States. The conference also provides opportunity for the members of official bodies and of the administrative personnel of the American Medical Association to secure first-hand information concerning the problems with which state and county medical societies are immediately concerned and to obtain the benefit of suggestions and criticisms that may be useful in planning for the extension and helpfulness of the service of the national organization.

REPORT OF THE BOARD OF TRUSTEES

Business Operations.—Gross earnings and miscellaneous income were larger in 1936 than in 1935. Expenditures for wages and salaries and for paper were notably larger than in the preceding year. Income from investments was smaller by approximately $3000 than in 1935. Net income for 1936 was $113,111.84, of which sum $80,844.60 was income received from investments.

The Journal of the American Medical Association.—During the year 1936 *The Journal* has maintained its repute as a leader in the general medical field.

The *Journal* has continued its earnest battle on behalf of high standards in the field of medical education and medical practice. Special issues have been devoted to graduate education, tuberculosis, general medical education, the work of the hospitals, roentgenology, and clinical pathology.

The editorial department of *The Journal* has been developed still further by a shifting of emphasis somewhat from the purely laboratory and technical advances to material dealing especially

with economics, general medical practice, and the social aspects of medical work.

Attention is called to the further development of the department of questions and answers. This has now assumed such proportions that from 30 to 50 letters are received each day from physicians throughout the world, who present many and various health problems. It even has been suggested that this extensive department might warrant the publication either of a book devoted to questions and answers or of a special periodical including only such material.

Hygeia.—*Hygeia* has maintained a steady increase in its circulation so that it has now reached the highest circulation in its history. The paid circulation of *Hygeia* at the end of the year 1936 was more than 101,000, an increase of about 15,000 over the previous year. Much of the material that has appeared in this magazine has been reproduced in abstract form in popular periodicals, and many public schools have continued the use of *Hygeia* as a reference work. Publication costs exceeded income by the sum of $14,791.38.

Cooperative Medical Advertising Bureau.—The Cooperative Medical Advertising Bureau represents 33 of the 35 official publications of constituent state medical associations. Commissions earned in 1936 amounted to $30,598.63 as compared with $26,244.26 in 1935. From the commissions earned, the sum of $13,000 was remitted to the state medical journals represented by the Bureau, these remittances having been made in proportion to the total amount of advertising secured for each of the journals. Advertising contracts secured through the Cooperative Medical Advertising Bureau for the state medical journals concerned amounted to $152,995.29, which represents a gratifying increase over the amount involved in contracts secured during the previous year.

Council on Pharmacy and Chemistry.—There has been an almost constant increase in the number of products submitted to the Council for official consideration. It is gratifying to report that more and more important producers of pharmaceuticals are offering cooperation. Requests from manufacturers seeking opinions and advice concerning developments in drug therapy are being received much more frequently than before, and there is a very decided increase in the number of inquiries coming from physicians and official representatives of various organizations. It is encouraging to note that an appreciable number of manufacturers of drug products are revising catalogues to eliminate unessential and useless drugs and, in some instances, are discarding the use of therapeutically suggestive proprietary names which encourage self-medication.

Another encouraging trend has been noted by the Council in that a number of pharmaceutical producers are now employing well-qualified, scientific personnel in strengthening their laboratory and research facilities. The qualified opinion, advice, and experience of the chemist, the bacteriologist, and the physician are now being used to a far greater extent than even before in connection with the production of therapeutic agents.

Council on Physical Therapy.—Probably one of the most important functions of the Council is the publication of reports on apparatus submitted and investigated, as well as on apparatus offered for sale that is not submitted for consideration.

Bureau of Legal Medicine and Legislation.—A survey of state legislation in 1936 of interest to the medical profession was published in the *American Medical Association Bulletin* for December, 1936. Throughout the year, when state legislatures were in session, reports of the activities of state legislatures, so far as they might have a direct bearing on the medical profession, were published in the news columns of *The Journal.* The Bureau of Legal Medicine and Legislation was in constant correspondence with constituent state medical associations in those states to which such legislation related. The more important measures of interest to the medical profession are discussed later.

Bureau of Medical Economics.—The Bureau of Medical Economics during the past year has endeavored to set forth in the published reports of its studies more of the economic principles that should govern in various forms of medical practice.

This report should be read in full. It is too extensive to publish.

Extension of Medical Service to the Indigent.—At the special meeting of the Board of Trustees held Jan. 8, 1937, the following statement pertaining to medical service to the indigent was adopted and later appeared in *The Journal:*

"In the past, the medical profession has always been willing to give of its utmost for the care of those unable to pay. The available evidence indicates that today throughout the United States the indigent are being given a high quality of medical care and medical service. Nevertheless, the ad-

vances of medical science have created situations in which a group of the population neither wholly indigent nor competent financially find themselves under some circumstances unable to meet the costs of unusual medical procedures. The Board of Trustees of the American Medical Association points out the willingness of the medical profession to do its utmost today, as in the past, to provide adequate medical service for all those unable to pay either in whole or in part. Members of the medical professsion, locally and in the various states, are ready and willing to consider with other agencies ways and means of meeting the problems of providing medical service and diagnostic laboratory facilities for all requiring such service and not able to meet the full cost thereof. These are problems for local and state consideration primarily rather than problems of federal responsibility. The willingness of the medical profession to adjust its services so as to provide adequate medical care for all the people does not constitute in any sense of the word an endorsement of health insurance, either voluntary or compulsory, as a means of meeting the situation.

FAIR MEDICAL EXHIBIT

For the first time in any international exposition, a separate building has been assigned by the New York World's Fair of 1939 for presentation of the story of medicine and public health. This building, to be erected by the Fair Corporation, will be in the heart of the exposition's exhibit area, on the northern side of the Theme Plaza. Not as yet named, it will house "A World of Health."

The exhibits for this building are being planned by a General Advisory Committee, composed of 101 national, state and local authorities on medicine and public health, appointed by Grover Whalen, President of the Fair, Dr. Victor Heiser is chairman of this committee.

Included in the exhibit will be presentations of the latest discoveries, devices and advancements in every phase of medicine and health, indicating, in new and dramatic manner, what man may do to take utmost advantage of the store of scientific knowledge now available to insure his health and that of his family.

Collected in the Health Building, the visitor will find colorful and animated displays portraying man's anatomy and physiology and the dynamics of his bodily functions. The construction and operation of the digestive system, of the nervous and respiratory systems and of the glands of internal secretion which have such marked effect on human personality and physical characteristics, will be shown in so simple a manner that descriptive matter will be kept to a minimum.

In planning and gathering the exhibit, the Advisory Committee is acting with the Theme Committee of the Fair, of which Robert D. Kohn is chairman.

The Executive Committee of the General Committee directly supervising the presentation is made up as follows: Dr. Louis I. Dublin, third vice president, Metropolitan Insurance Company, chairman; Dr. James R. Reuling, Jr., vice chairman; Dr. George Baehr, New York Academy of Medicine; Dr. S. S. Goldwater, Commissioner of Hospitals, New York; Dr. Victor Heiser, Dr. David J. Kaliski, chairman of the Coordinating Committee of Five Medical Societies; Dr. John L. Rice, Commissioner of Health, New York, and Homer N. Calver, Director of Health Exhibits.

Through an agreement signed by Mr. Whalen, responsibility for the plan and development of the exhibits has been placed on the Advisory Committee.

"As in the case of all other exhibits at the Fair," Mr. Whalen said, "we want to have the subject of medicine and public health brought to the consciousness of the average man. We want him to realize what is available to him in both knowledge and technique, to appreciate dangers and the means of avoiding them in his home life and elsewhere.

"This is not to be an exhibit for doctors, though the medical profession will surely be deeply interested in it. It is all oriented toward the average man who gets into trouble more often than not, and frequently because he does not know the dangers, nor even the danger signals."

The building devoted to medicine and health will be divided into three main chambers of great size, to be designated as The Hall of Man, The Hall of Medical Science and The Hall of Public Health. Each of these halls will be subdivided into sections, as yet only tentatively planned, developed under the eye and skill of experts in the particular fields they cover.

As a means of aiding the average man who desires answers to questions concerning his bodily health or hygiene in general, the committee is considering the establishment of information booths in several parts of the building.

WOMAN'S AUXILIARY

FAYETTE COUNTY

The Fayette County Medical Society Auxiliary met May 18, for a one o'clock luncheon at the Methodist Church, Montgomery. Mrs. George Fordham was hostess to the twenty-one members who were present.

Following luncheon, Miss Elizabeth Skaggs pleased her audience with some charming piano music.

A very interesting article, "Happiness as Deep as Tears" was read by Mrs. E. B. Thompson.

The date and place of the next meeting will be decided at a later date.

MRS. G. G. HODGES, *Secretary*.

LOGAN COUNTY

The Auxiliary to the Logan County Medical Society met for its final session until fall at the home of Mrs. J. W. Lyons at Holden, West Virginia, on June 4, 1937.

Mrs. D. S. Hess, president, opened the meeting. Eleven members and two guests were present. Mrs. J. Lester Patterson of Holden gave the report to the State Meeting in Clarksburg. Mrs. E. H. Starcher, state president of the Auxiliary, spoke briefly to the members of her plans for the Auxiliary during her administration.

The meeting adjourned until October at which time it will reconvene at the home of Mrs. E. H. Starcher, Omar, West Virginia.

MRS. J. LESTER PATTERSON, *Secretary*.

McDOWELL COUNTY

The McDowell County Medical Society met May 12 in the Appalachian Club Rooms in Welch, W. Va. Mrs. J. Howard Anderson opened the meeting. Sixteen members and three visitors were present.

The nomination and election of officers was held as follows:

President, Mrs. E. Vermillion, Welch; president elect, Mrs. P. C. Spangler, Pageton; first vice president, Mrs. R. D. Clarke, Caretta; second vice president, Mrs. C. W. Vick, Jenkinjones; secretary, Mrs. H. P. Evans, Keystone; treasurer, Mrs. H. G. Camper, Welch.

Chairmen of Committees: Historian, Mrs. N. F. Coulon, Thorpe; Hygeia, Mrs. A. T. Repass, Coalwood; legislation, Mrs. R. V. Shanklin, Gary; press and publicity, Mrs. A. H. Bracey, Welch; program, Mrs. J. H. Anderson, Hemphill; public relations, not named.

MRS. H. P. EVANS, *Secretary*.

PARKERSBURG ACADEMY

A meeting of the Auxiliary to the Parkersburg Academy of Medicine was held on May 4 at the Y. W. C. A. Twenty-five members were present. Mrs. Arthur Knott, president, opened the meeting. Final reports on all committee activities were heard. Total dressings made at the City Hospital during the year amounted to 3,630.

Mrs. R. H. Wharton presented the retiring president, Mrs. Arthur Knott, with a beautiful bonquet of spring flowers. The incoming president, Mrs. O. D. Barker, gave an interesting talk on plans for her administration.

Election of delegates for the State Meeting was held and plans discussed for attendance thereto.

MRS. BEN ROBINSON, *Secretary*.

CORONARY HEART DISEASE

Coronary heart disease is one of the forms of heart trouble once obscure for which definite diagnosis can now be made during the patient's lifetime and treatment instituted. Dr. Bernard S. Kleinman discloses this in his article "Coronary Heart Disease" in the July *Hygeia*.

This disease is the result of wear and tear on the blood vessels and on those of the walls of the heart in particular. The blood vessels which nourish the walls of the heart are known as the right and left coronary arteries and their branches. If any part of this network becomes blocked, then a greater or lesser area of the wall of the heart becomes soft and mushy instead of having the healthy consistency of normal musculature.

The great immediate danger is that if this accident is not recognized and proper treatment is not instituted, the heart may rupture at this weak point, and instantaneous death will result.

The pain of coronary occlusion is similar to the pain of angina pectoris but is more excruciating in character and lasts for hours, days or even weeks. Many other typical symptoms make the diagnosis of a certain percentage of the cases clearcut. However, it is often similar to the clinical picture of acute indigestion.

FROM OTHER JOURNALS

THE PATIENT'S FAMILY

A member of our society was in the editorial offices recently and we took the occasion to inquire into the health of a member of the family who had had an operation while on a vacation trip.

"I have had a new and illuminating experience," said this physician. "For the first time in many years I have been a member of the patient's family. More than that I am certain that I was an anxious member of the patient's family and, as I look back, I am sure that I asked all the questions which I myself, as a surgeon, have been so prone to answer in a few words or dismiss when talking with members of the family. Out of my experience I have found myself with a new understanding,—a revivified picture, if you please,—of the anxiety of the patient's family. I know that I shall treat them, as well as the patient, in the future."

Is this not something for all of us to think about? Perhaps even in thinking ahead to the next patient to be seen, do we not all tend to fall into what almost might be termed a routine in this matter of relations with the patient's family? Might we not all do a bit more to be the family doctor as well as the efficient physician?—*Wisconsin Medical Journal.*

DEATH RIDES WITH VENUS

The author of this sensational presentation of the venereal problem hails from Chicago which we are told, "probably constitutes the best informed portion of the country's population about syphilis and gonorrhea." It is a little book of 158 pages divided into twenty-one chapters set off by such headings as "Legion of the Damned," "Squirming Corkscrews," "Clinic or Butcher Shop," "Musn't Say Nasty Words."

We are told that the proof was submitted to a number of lay and professional persons with the hope that one of them would write an appropriate introduction. Chapter XI is a blasting condemnation of the medical profession. "I know the average doctor for what he really is," writes the author, "an uninformed, haphazard healer who hides his inde-

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An Aid For The Prevention Of Ringworm Infection

For irrigating, swabbing and dressing infected cases wherever an antiseptic is needed

For Hand and Skin Sterilization

To Make a Dakin's Solution of Correct Hypochlorite Strength and Alkalinity

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cision behind a disguise of long words and ponderous phrases." "Blame for the prevalence of syphilis and gonorrhea in the United States today can be fixed in only one place, upon the medical profession," he continues and adds, "Most doctors know less about syphilis and gonorrhea than they do about Einstein's theory. They have no more idea how to treat them than does the patient." Turning to the medical colleges the author's vehemence is only a little less evident. He claims to have made a survey of fifty-four medical schools, finding only twelve which could be said "by any stretch of the imagination to give really thorough training in this line." Paying his compliments to his fellow practitioners again he states that "only 20 per cent of the persons infected are able to pay the rates now asked for venereal disease treatments by private physicians." Declaring that physicians frankly capitalize the treatment of venereal patients, he asserts that "again the finger of guilt points at doctors."

Although at times one questions the author's taste, it must be admitted that on the whole the account is a vivid portrayal of the prevalence, havoc, and utter inadequacy of the present management of gonorrhea and syphilis in this country. Had the author omitted Chapter XI he would probably have found someone from the medical profession willing to write an introduction to his book. — *Virginia Medical Monthly.*

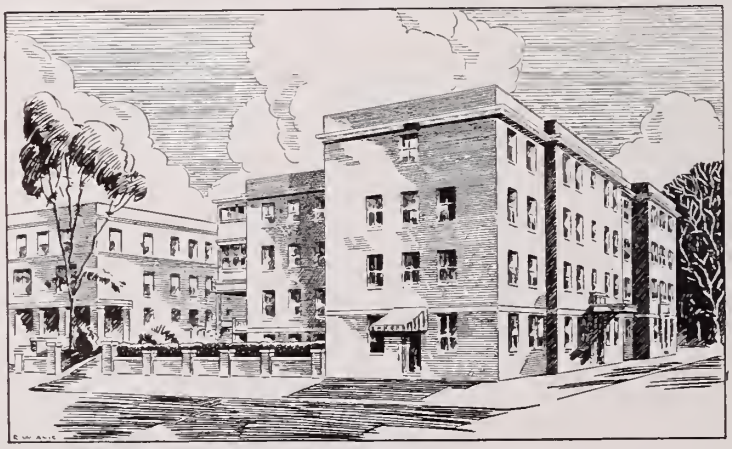
FIRST-AID LIMITATIONS

Campaigns to make the public health-conscious and programs to educate laymen how to use first-aid methods in treating injuries and disabilities, pending the arrival of a competent physician, have their place and are to be highly commended, providing they are conducted cautiously.

It must be recognized that danger lurks in projects which place too much reliance in the knowledge and skill of those who have not had medical training. Those who head campaigns involving public education in medical and public health matters and instruction of laymen concerning medical methods would do well to emphasize that there is no substitute for the knowledge and skill of the competent medical man and that self-medication and first-aid by laymen are merely stop-gap procedures.

A good point is raised by one Ohio physician who has been taking an active part in instructing

McMILLAN HOSPITAL Charleston, W. Va.



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J. Ross Hunter, M. D., F. A. C. S.
I. P. Champe, Jr., M. D.
W. O. McMillan, M. D.

Obstetrics:
U. G. McClure, M. D.

Obstetrics and Gynecology:
F. A. Clark, M. D.

Eye, Ear, Nose and Throat:
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Orthopedic Surgery:
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McMillan Hospital Training School; Sara Hamilton, R. N., Supt. of Nurses; Alma McKay, R. N., Asst. Supt.
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first-aid classes of the American Red Cross. Although he recognizes the value of this activity by the Red Cross and commends that organization for having utilized qualified medical talent in its first-aid schools, he admits being somewhat troubled by the potential dangers of this and similar activities. To quote from his communication:

"Just how far can the American Red Cross safely go in putting into the hands of these lay people more or less powerful drugs and hazardous technical procedures? The text book advises tannic aid for burns, certain eye lotions, various antiseptics and serum for snake bites. Personally I think the text book is very conservative and safe. However already locally these classes are becoming the target for every sort of medicament imaginable. They are being circularized in several cases by enterprising drug firms and having no background by which to judge they fall a prey to every nostrum on the market."

Medical societies and physicians individually should give their attention to this problem. County medical societies should see that local organizations engaged in medical and public health educational work are made to realize that such work should be under the direct guidance and supervision of trained physicians. Efforts should be made to impress on laymen that there is a definite boundary between first-aid and medical service. Dangers of overstepping that boundary should be emphasized. As individuals, physicians would do well to warn their patients about dangers of self-medication and encourage them to avail themselves at the first opportunity of the service of a qualified physician no matter how trivial the injury or disability.—*Ohio State Medical Journal.*

WITH OUR ADVERTISERS

BENZEDRINE SULFATE

Guttmann, E. and Sargant, W.: British Med. Jour., I:1013 (May 15) 1937.

Observations were made on more than 250 patients receiving doses of 10-30 mg. of 'Benzedrine Sulfate' (benzyl methyl carbinamine sulfate, S. K. F.)

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mor, etc., seemed to have a relationship to speed of absorption and the authors feel it inadvisable to administer 'Benzedrine Sulfate' on an empty stomach.

General psychological stimulation was produced which was shown by increased confidence, initiative, talkativeness and activity. Thinking processes appeared to be speeded up without impairing concentration or judgment.

There was a wide variation in the response of individual patients. Normals exhibiting retardation, indecision and mild depression were generally benefited. Patients with cyclothymic tendencies had the most constant beneficial effects. Although patients suffering from mild depressions often were carried over periods of disability, severe depressions received little benefit. Some schizophrenics, particularly those with lack of initiative, seemed to benefit. Patients with narcoleptic symptoms received constant relief.

'Benzedrine Sulfate' appeared to be contraindicated where anxiety was a prominent feature, although some patients of this type showed improvement. In general, hypochondriacs did not respond favorably, and with all subjects possible production of insomnia had to be considered. There did not seem to be any necessary relationship between psychological effects and blood pressure change.

No tendency to addiction was observed and the authors feel that the unpleasant reactions obtained with overdosage will be sufficient to assure the proper usage of the drug.

THE BIRTH OF A BABY

Many physicians feel that every girl over 12 and every boy over 14 should see the new talkie "The Birth of a Baby" which is being presented by the American Committee on Maternal Welfare at regular movie houses.

Most parents are either unable or unwilling to instruct their children in regard to menstruation, fertilization, pregnancy, and other natural phenomena. The result is that the child grows up in ignorance of these important matters, or what is worse, gets its "education" in the gutters.

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VERTIGO*

By deWayne G. Richey
Pittsburgh, Pa.

There is an old saying that at sometime or other one is the victim of circumstance. Certainly this is true in my case when I elected to address you on "vertigo." The facts in the case are as follows: Firstly, many years ago now, and shortly after I entered the alluring field of otolaryngology, a man of 62 came to me complaining of dizziness during an address to a community gathering. For many years he had been a public speaker of regional note. Never had be gone giddy before. Thorough examination, metabolic, neurologic, otologic and physical, failed to reveal any convincing etiologic clues to his vertigo. While summing up the situation with him, I asked: "Have you been working harder than usual lately?" He said, "Yes." So I said, "Take a rest and your dizziness will disappear." He took the rest and the dizziness disappeared. And since then he has been superannuated as the oldest superintendent of schools in the Commonwealth of Pennsylvania and, though he gives many speeches, there has been no recurrence of vertigo.

Secondly, from this and other similar experiences, I felt that I had struck a major chord in the solution to many of the vertiginous patients, which you and I see month in and month out, and, as a matter of fact, I still think so.

Thirdly, while casting around for a subject suitable to this occasion, it came to me one afternoon in my office. Coming in the door was a patient who for ten years had required a bi-weekly inflation of her Eustachian tubes to control an otherwise intractable vertigo. Looking through the window, across the street, I saw a window cleaner walking along a ledge six inches wide with a bucket in one hand, his window wiper in the other hand and smoking a cigarette. The contrast between the equilibratory apparatuses of these two individuals was so striking that I decided then and there to discuss with you a few of the basic and practical points concerning dizziness.

*Read before the General Session of the West Virginia State Medical Association, Clarksburg, May 25, 1937.

The scientific study of vertigo began with the researches of Flourens a hundred years ago. The work still continues, and much yet remains for the clinician to study and learn, and for future researches to survey and explain. The symptoms of vertigo are well known. Patients who have had both labyrinths completely removed, and deaf mutes who have complete loss of function of the vestibular nerves, do not suffer from vertigo. Patients who have bilateral auditory nerve tumors which implicate the whole of each eighth nerve cannot be made dizzy by rotation or galvanic stimulation. On the other hand, normal individuals can become dizzy without any physical disturbance of the labyrinth, as shown by the tests with a prism before one eye. After walking with a prism held before one eye, while the other eye is closed, the prism is suddenly removed, the individual reels to one side. Again, when walking with one eye closed, while the open eyeball is momentarily displaced digitally, release of the pressure causes a feeling of vertigo, accompanied by staggering and neusea. Yet these are not common causes of spontaneous vertigo. They serve to remind us that every case of vertigo is not necessarily labyrinthine in origin, but that other factors which disturb muscle sense and produce want of harmony between afferent impulses from oculomotor tracts may also cause vertigo. So, modifying Hughlings Jackson's definition, we will define vertigo as the state of consciousness of a false sense of orientation of ourselves in relation to our environment. The individual affected by vertigo feels "*as if*" he is moving, or "*as if*" his surroundings move at a certain rate or in a certain direction, while realizing that such inferences are really erroneous. He will say he felt "as if" he were being whirled, or "as if" falling in this or that direction, or "as if" the room or surroundings were going round and round, or over and over.

Such sensations may last a few moments, or persist for hours, to recur with variations. When these symptoms are slight in intensity they are often spoken of as feelings of dizziness or giddiness, and it is convenient to use these terms as representing lesser forms of vertigo. Sir William Gowers always maintained that vertigo was aural in origin in over 90 per cent of cases. Others have said it is almost invariably due to some disturbance in the ears. The term "gastric vertigo" indicates the frequency with which gastric disturbances may prove prominent features, but it would be an error to look upon the gastric disturbance as a cause of vertigo, in the light of Gower's teaching, and from what we know from the work of Holmes and other modern neurologists.

By overstimulating the labyrinth in normal subjects we can induce not only feelings of vertigo, but symptoms of visual and ocular disturbance, gastric disturbance, cardiovascular symptoms, flushing, pallor, signs of collapse, all of which are secondary reflex results of the excessive stimulation of the vestibular centers in the medulla, and not causes of giddiness. We have seen cases of spontaneous vertigo, with dyspnea, due to aural disturbances, also of diarrhea after severe vomiting, following otherwise typical attacks.

The diagnosis must present difficulties to some, for I have seen a patient who submitted to gastrojejunostomy in order to cure attacks of vomiting which were subsequently proved to be due to aural vertigo. We have seen the appendix removed for similar reasons, which, too, proved erroneous. In the course of clinical practice we find that dizziness is associated with different disorders of the ear. As otologists we can connect vertigo with labyrinthitis because we realize the great importance of making a correct diagnosis so that we can act upon it early in order to save life. Therefore we would point out that vertigo and nystagmus sometimes occur in acute otitis media before the tympanic membrane has been opened. This condition, as proved by physiological tests, is not due to invasion of the labyrinth. But we must also avoid overlooking invasion of the labyrinth, a danger often leading extremely rapidly, to fatal

leptomeningitis. In such cases spontaneous nystagmus, which is present at first on deviation of eyes to the same side, soon changes over to nystagmus directed to the opposite side, and caloric tests give no reaction. Not long ago I saw a patient with early acute otitis media who was intensely dizzy and had nystagmus to the opposite side. Her doctor, who was also an aural surgeon, was convinced it was purely hysterical. After carrying out tests, I urged him to operate on the labyrinth without delay for the affected labyrinth was defunct. Afterwards I heard that he did not take my advice until the patient developed marked clinical signs of meningitis, when an operation proved, I regret to say, too late. We must be careful to guard against the mistake in diagnosing labyrinthitis and "pure hysteria", for a patient with vertigo is likely to become hysterical. What we should do is to seek the cause of hysterical manifestations. Erosion of the labyrinth may occur, after some weeks, in acute, and also in chronic otitis media, especially when cholesteatomatous accumulations are present. Apart from otitis media, we meet with attacks of vertigo in patients who suffer from otosclerosis, especially in the early stages, and the disease is perhaps more frequent when the signs of otosclerosis are unilateral, or more advanced on one side than on the other.

And now we come to a class, which, in my experience clinically, is the largest class—recurrent vertigo associated with inefficiency of the Eustachian tube mechanism. If we examine patients liable to dizziness with sufficient care, we discover that Eustachian inefficiency is present on one side or the other far more frequently than many have suspected. Many patients with vertigo without suppurating ears have nasal or postnasal catarrah.

I presume we agree that Meniere's symptom-complex is not due to hemorrhage into the labyrinth, and that when indeed spontaneous hemorrhage does occur, it is extremely rare, whereas the symptoms of Meniere's disease are common in general practice. I suspect that Meniere's fatal case was one of infective labyrinthitis, occurring in a patient whose tympanic membrane did not perforate, death being due to so-called meningitis serosa.

Meniere's symptoms are met with in the Air Force, and in the Navy, in submarines, and caisson divers. During the Great War we found invariably that vertigo and nausea occurring in an airman immediately he landed after high flying, were associated with some degree of invagination of the tympanic membrane from the excess of air pressure in the meatus, resulting from obstruction of the Eustachian tube. We found that when both Eustachian tubes were inefficient, and both tympanic membranes were compressed inwards, there was deafness without vertigo, but when only one Eustachian tube was obstructed, then the deafness was not noticed, while the symptoms of vertigo were prominent, due to the heterogeneous stimuli. This is most important in the case of an air pilot for it must be remembered that vertigo in the air is associated with reflex forced movements, and a pilot will be seen sometimes trying to land with one wing down, quite unintentionally, when he thinks he is on a dead-level keel. I have no doubt whatever that one cause of many fatal spins resulted from the reflex forced movements with vertigo due to unilateral Eustachian obstruction. The prevention and treatment are self-evident. All pilots should be capable of inflating both Eustachian tubes by Valsalva's method, or else of opening the Eustachian tubes by the act of swallowing, otherwise they should not risk high flying. What happens to airmen can also happen to submarine and caisson divers. During the period of artificially increased compression of the atmosphere, Valsalva's test should be applied if swallowing fails to relieve the feeling of increased pressure on the tympanic membranes. But air can be absorbed from the tympanic cavity without the application of pressure in cases of Eustachian obstruction.

I will give an example of a young lady patient who had attacks of dizziness. She had signs of unilateral otosclerosis. When I

saw her she had no Eustachian obstruction, nor was she giddy at that time. A few days later I was called to her as she had been seized with violent dizziness when shopping. The shopman thought she was intoxicated, and sent her home in a taxicab. I found her lying on her right side, afraid to move her head. She had nystagmus on looking to the right, but not to the left. The left ear, which was the deaf one, was uppermost, and I could easily see the tympanic membrane inflating when she performed Valsalva's test. So we slowly rolled her on to her left side, and I found the right tympanic membrane displaced inwards, and immobile when she attempted Valsalva's method of self-inflation. As she remained lying on her left side, I passed a Eustachian catheter, and inflated the right ear. The nystagmus instantly disappeared, and the vertigo ceased; she sat up and telephoned to a friend to explain why she had failed to keep an appointment. I would here emphasize that it was the good ear that was at fault, and I am convinced that recurrent vertigo in unilateral lesions often occurs through faults on the unsuspected side. Patients often say the noises in the deaf ear are greater when they are dizzy, and this complaint is apt to distract attention from the good ear.

But we must not put down every case of recurrent vertigo to actual obstruction in the Eustachian tube. We have seen vertigo in a patient who, at the time, had no obstruction, but there was visible fibrillary tremor of the facial muscles on the same side. Is it not possible that the stapedius was also affected, for certain movements of the stapes can produce dizziness? In some cases it seems highly probable that a reflex spasm — it may be tremor—occurs in the tensor tympani or stapedius.

Vertigo associated with disease of the maxillary sinuses may obviously fall into the class of those cases due to Eustachian inefficiency, but it is also possible that, in some cases, where there is no Eustachian block, the fifth nerve plays a reflex part with the seventh nerve, setting up disturbance in the intrinsic muscles of the ear, and, through the movements of the stapes, causing commotion in the labyrinthine fluid. The frequent association of "dead teeth" with vertigo is very suggestive of some such trigemino-acoustic reflex. This deserves further investigation.

Lastly, we must avoid missing cases in which vertigo and nystagmus are due to syphilis, to disseminated sclerosis, syringobulbia, and other disease of the central nervous system. But the greatest mistake, considering the tests we can now rely upon, is to attribute the cause, in a case of acute labyrinthitis to hysteria.

I shall not attempt to cover the contentious ground of treatment. We should here be guided, first, by whatever in our opinion is the cause; secondly, by the effect of attempts to remove that supposed cause. Personally, I regard destruction of the intact labyrinth only as the very last resource. A high percentage of ventiginous attacks are functional in nature. Fatigue is an etiologic factor in many of them. So if rest fails and when every other form of treatment, metabolic, endocrinological, et cetera, fails, give your patient phosphorus, U. S. P. gr. 1-100 three times a day. It often is mighty good for not only vertigo, but also tinnitus aurium.

I have purposely avoided mentioning some of the symptomatic hand maidens to vertigo, such as falling and atoxia because time will not permit. There is, however, one important symptom — nystagmus — which should be considered. Inasmuch as a clear conception of the mechanism of the production of nystagmus is at best a complicated affair, and inasmuch as it is a psychological axiom that one's visual memory is better than one's auditory memory, I have brought along a reel which I hope may help you to solve a few of the problems of nystagmus in particular and vertigo in general. It is not new, but I have seen it at least a dozen times and I learn something from it on each occasion.

Discussion

Dr. F. O. Marple, Huntington: We feel very much indebted to Dr. Richey for presenting this most interesting subject. Unfortunately I did not get to review his paper until I had prepared my remarks, so naturally they may deviate a little from the average course of the opening discussion. It occurs to me, however, that to elaborate slightly and present a few more thoughts on the subject of vertigo should be of interest to every physician because we all come in contact with vertigo.

One is conscious of the position and motions through three different peripheral sense organs and their centripetal tracts: First, through the visual organs, including their intrinsic and extrinsic muscles; second, through the equilibrium sense organs, the non-acoustic labyrinth; third, through the kinesthetic sense organs.

Ocular vertigo may be produced pathologically by sudden irregular swelling of the lens, which in many instances may produce polyopia; sudden blindness from lesions in the perceiving apparatus; lesions especially in the short optic tracts and perhaps, too, in the long tracts to the visual centers in the occipital lobe.

Sudden paralysis of accommodation and one or more of the extrinsic muscles of the eye may produce diplopia and vertigo.

Vestibular vertigo may be caused by any lesion in the non-acoustic labyrinth, including congestion, circumscribed irritative or destructive lesions, diffuse serous or suppurative inflammations, toxemias and new growths; also, any lesion of the vestibular nerve, meningitis and intracranial lesions. The vertigo persists even with the eyes closed, while the reverse is true in ocular vertigo. In other words, if vertigo is due to the eyes, when you close the eyes the vertigo disappears. If it is due to these other conditions, when you close the eyes the vertigo is even sometimes exaggerated.

Kinesthetic vertigo with equilibrium disturbances may be produced by acute polyneuritis involving the sensory nerves, diseases involving the cord, and conditions interrupting the centripetal impulses. This form is likewise exaggerated by closing the eyes and is usually progressive, which permits the patient to become gradually accommodated to these changes.

By central vertigo is not meant the condition which results from anatomic changes in the brain substance itself, but on the contrary by central vertigo one is designating a condition which is due to circulatory disturbances in the brain or to toxic substances circulating in the blood current, produced by cerebral congestion or cerebral anemia, heart disease, toxemias such as tobacco, alcohol, carbon dioxide, ether, chloroform, and many other substances. Uremia, autointoxication, and the acute infectious fevers likewise play a part in central vertigo.

Vertigo may also result from arteriosclerosis or endarteritis, where certain vessels may be more affected than others, or where the vessels make a sharp turn, or in cases where vessels branch off from the main stem at a sharp angle. There is one consoling feature about this subject of vertigo, however. If three different sets of centripetal impulses are necessary for perfect orientation and equilibration, and if one of these is lost, compensation usually occurs by the remaining two, and one learns rapidly to orientate and equilibrate, quite sufficiently for ordinary purposes.

A FISH AND A FROG

A fish, a frog and a thunderstorm started it.

This particular fish lived several thousand years ago near the Roman shore. It was an electric ray fish and it "stung" a bathing Roman with its tiny electric current. Soon Roman doctors were trying to use the fish in their practice.

The particular frog died in 1791 when Luigi Galvani, the scientist, dissected it and laid it on his table. An assistant touched it with a magnetized knife. The dead frog twitched. It was the next step in a new science.

Galvani wondered; he tried again, this time by hitching the dead leg to a lightning conductor during a thunderstorn. At every lightning flash the leg twitched.

Galvani demonstrated that every time a muscle contracts it sends out a tiny electric current. The heart is a mass of muscles. At each beat it makes electricity. In 1903 an electrocardiograph machine was built to "catch" the current, amplify it, measure it and make a picture record of it.

Now every hospital must have one and they cost twice as much as the average automobile.

And, some new hospital buildings are now being especially wired so that the patient's heart-beat can be carried from his room over wires hundreds of feet long until they reach the "heart station" of the hospital for study!

THE PREVENTION OF APPETITE PROBLEMS IN CHILDHOOD*

By J. LEWIS BLANTON, M. D., F. A. A. P.
Fairmont, W. Va.

ONE of the most vexing problems confronting the physician practicing pediatrics is the "child that won't eat." These cases present themselves entirely too frequently and often tax the ingenuity of the doctor in correcting the condition, due to the psychological as well as the physiological factors involved.

Anorexia results from many causes. Every illness, whether acute or chronic, is accompanied by poor appetite. It is the initial symptom of every infection. Unhealthy hygenic conditions, such as lack of fresh air and sunshine, fatigue, excitement, teething, allergy, etc., will produce anorexia. But, after carefully ruling out these cases with definite etiology, there still remains a large group who fulfill most of the qualifications for good health and hygienic living, a group that frequently has had careful medical supervision and, yet, present very definite feeding difficulties.

Nothing is more pathetic than for mothers day after day to coax, beg, bribe, implore or actually force their children to eat each meal. Second to this comes the child that does not like certain articles and finally narrows his diet down to so few foods that deficiency diseases arise. It is this group that I feel can be prevented by wise supervission from birth throughout childhood.

The importance of environmental influences on infant feeding places the responsibility squarely on the home, and, therefore, the prevention of anorexia deals largely with the parental attitude toward the child. It is the physician's duty to explain the nature of the hunger-appetite relationship to parents and to guide them in their supervisory care. Once emphasis is switched from height-weight standards to enjoyable eating, a big stride forward has been made in preventing feeding difficulties from arising.

Of primary importance is the explanation of the physiology of hunger and appetite in understandable terms. The newborn baby enters the world with a digestive system that is ready to function. Instinctively, the baby seeks his first meal. Mother assists by offering the breast, or other food, and the baby takes it. As soon as food enters the stomach, hunger contractions cease and, by repetition of this act, the baby quickly learns that the taking of food makes him more comfortable. Soon, in order to relieve hunger contractions, which are painful, he starts anticipating his meals by fretting before feeding time. This is the first evidence of appetite manifested in infancy.

As Aldrich[1] and others have pointed out, hunger and appetite are not synonymous terms. Hunger is a painful sensation in infancy. In older individuals, it is more of a gnawing discomfort than real pain. Hunger differs from appetite, which is a yearning for something that previous experience has taught is desirable. In other words, appetite is something that can be cultivated. It can be encouraged and nurtured by proper training. It is truly an educational problem.

A child develops an appetite or grows up without it depending very largely upon how he is supervised. Mothers, and also the fathers and the grandmothers, should have this clearly presented to them. Many pitfalls can be avoided if they are anticipated in time. An accurate concept of the factors involved in developing and encouraging appetite is absolutely essential in order to provide proper

*Read before the Section on Pediatrics, W. Va. State Medical Association, Clarksburg, May 24, 1937.

supervision. This information should be given parents along with the dietary instructions by the attending physician.

Nature indicates the manner in which the baby should be started on its diet. For the first few days, the supply of colostrum is very small, yielding a low caloric intake. This allows the baby to get hungry and, at the same time, gradually accustoms the digestive tract to its future work. Smith[3] has recently pointed out the contrast of nature's method of starting the newborn with that of many physicians, who seem to be about as weight conscious as most mothers are today. Smith[3] has also shown that the majority of formulas suggested by milk companies and manufacturers of proprietary infant foods are entirely too strong and provide entirely too many calories for the initial period of artificial feeding.

The use of various hydrating solutions during the first few days of life is a debatable policy. Many physicians now favor the use of some solution, usually glucose and saline or sodium citrate, betalactose and water, during the prelacteal period. By using such a solution, the loss of weight in the newborn is considerably reduced and inanition fever entirely eliminated, but these solutions must be used with discretion, as Krost and Epstein[4] have recently pointed out. Waterlogged tissues and even convulsions from cerebral edema can result from the use of improperly prepared solutions. However, when properly used, babies seem to do better than where simply sterile water is given.

The first three or four months should be concentrated upon appetite development. A rigid schedule is of prime importance since it allows the stomach to empty and hunger pains to develop before food is again taken. It is always wise to keep the baby's appetite on edge during these early months. This is done by stopping the breast feeding as soon as the baby ceases to take food eagerly. The same technique applies to formula babies. Mothers should be instructed that the formula suggested for the baby represents the maximum requirement, and that the baby should be permitted to decide the amount of feeding he desires. At some feedings he will take more than at others, but the maximum offered should not be exceeded. Such explanation will avoid the tendency of so many mothers to coax or force the baby to take all of each bottle offered.

Individual feedings should not be taken in less than 10 minutes and never longer than 20 minutes. Many babies are allowed to dwaddle over their formulas for half an hour or longer. Such technique will take the edge off the appetite for the next feeding as well as lead to digestive upsets.

The baby should be trained to enjoy his meals fully, a factor of no little importance in proper digestion.[5] Food taken with a relish stimulates free flow of digestive juices, which means more perfect digestion and, therefore, while the baby may not take as much as some mothers wish it to take, it derives more benefit from what it does eat and enjoy than from food forced upon it.

The baby's appetite having been thoroughly established during the first three or four months, the next step is the introduction of other foods. Every new article of the diet should be started in small amounts and repeated for several days in order to accustom the baby to the new food. It is relatively easy to introduce new foods during the first year. The baby is naturally inquisitive and his method of testing anything is by putting it into his mouth. By taking advantage of this characteristic, new foods are easily added in most instances. Where there is difficulty in starting solids, this can be overcome by training the baby to take some of his formula from a spoon and then, by gradual substitution, introduce the new food.

Davis[6] has shown in her interesting study that the infant and young child can digest common foodstuffs well, provided the particles are small enough. This being true, there is no reason why a good variety of food should not be given the baby during the last six months of the first year. By his first birthday, the baby should be accustomed to

taking several different cereals, practically all of the vegetables, most of the essential fruits, potatoes, eggs, meat and milk.

A common source of trouble in establishing good feeding habits is the continuance of strained food during the second year, or even longer. The following case is illustrative of this error:

Ben F. was three years old. He was the only child of healthy Jewish parents. He has always been healthy and was two pounds overweight by the Woodbury height, weight and age table. The only complaint was that solid food could not be swallowed. The parents stated that Ben had been on evaporated milk, canned strained vegetables and fruits, cereals and fruit juices since the latter part of the first year. Several attempts had been made to change to solid foods but the baby simply rolled the bolus about in the mouth and finally spat it out. If the parents tried to force him to swallow the solid, he vomited and everything would come up. Therefore, in order to keep him from losing weight, the liquid type of diet had been continued. This child had to be hospitalized for two weeks in order to overcome his feeding difficulty.

The gradual transition from liquid to soft and then to solid foods will avoid many difficulties. It is also wise to change from ready prepared foods early in the second year because of the difference in taste between such foods and home prepared foods. As soon as possible the food for the baby should be prepared as it is for the rest of the family to accustom him to the taste of his future diet before his negativism manifests itself sufficiently to create feeding difficulties.

Bottle or breast feedings continued into the second year frequently lead to difficulty. Many babies will narrow their diet down to scarcely any other food when this is permitted. The so-called milk anemia is usually the result of this very thing. Babies should be weaned to a cup or glass by the end of the first year.

Anorexia accompanying infections should be carefully explained and the mother instructed that upon the first evidence of lack of appetite the child's diet should be modified to easily digested foods, and these not forced. The following case is typical of the difficulty arising from this error:

Mary Anne S. was six months old. She had been a formula baby since birth and had thrived well until two days ago when she started leaving part of her formula. The next day, she refused her vegetables and cereals and vomited twice. She only took half of her formula. The mother brought her to the office with the suggestion that Many Anne had tired of her food and that possibly a change to some other food would help. On physical examination, an acute pharyngitis was found. The condition was explained to the mother, the diet modified and in a few days the baby was hungry again and ready for its usual diet.

This case illustrates the starting point of many cases of anorexia and also many cases of finicky eaters. So often mothers will coax, or even force, their children to eat when they have some little upset causing temporary anorexia. When food is forced in, indigestion and vomiting frequently result, and, all too often, the food taken preceding the vomiting attack is eliminated in the future just as adults do when a similar occurrence happens. Stolz[7] has pointed out the frequency of finicky eating among children, ranking it along with thumb-sucking. Many of these cases are just as difficult to handle as the child with anorexia.

Maeltime for the child should be an incidental part of the daily routine instead of the outstanding event of the day, with the child being the leading actor. Too much stress must not be placed upon eating. Supervision must be kept in the background, in fact, the child should be surprised by the lack of interest. Training in table manners can come later. One-half hour should be permitted for mealtime. At the end of this time the child is excused without comment upon the meal. Once appetite has been developed, it

can be depended upon to determine the quantity of food needed.

Children should be taught that all common foodstuffs are good and wholesome. This frequently means that adult members of the household must learn to eat foods that they do not particularly enjoy. Children are great imitators and many finicky eaters may be traced to copying after some member of the family that gets special attention by refusing to eat certain foods.

Many city children, raised in apartments, lack the freedom and outdoor life conducive to good health and good appetites. Recreation is needed by the old and young alike, but especially by the growing child. We are seeing entirely too many puny, delicate hothouse children due to lack of recreational facilities in the cities. Outdoor exercise and recreation is the best appetizer that can be provided for normal children and, the physician in his routine supervision, should stress this to all mothers.

Avoidance of all excitement at and preceding mealtime is necessary to encourage enjoyable eating. Young children are very susceptible to emotional disturbances. The secretion of digestive juices is greatly influenced by such disturbances and many cases of indigestion may be traced to this etiology. An improperly functioning digestion is always accompanied by lack of appetite. Pleasant surroundings encourage good digestion. However, this does not mean that amusement by story-telling or dancing or games is good practice. Mealtime is for taking food and not a time for play.

Another common source of trouble during childhood is fatigue from overwork. Parents are anxious for their children to have every advantage offered by modern civilization. In addition to school work, there are dancing, music lessons, possibly swimming lessons, participation in plays and concerts, and usually a few movies at night for good measure. The child is fatigued most of the time and goes on nervous energy just as many adults do today. Inevitably, digestive disturbances and anorexia result.

Finally, every visit to the physician's office should be seized as an opportunity to instruct mothers in the proper technique of feeding their children. Too often, in a busy practice, we are prone to give printed dietary instructions without any advice about the method of feeding. The art of eating is just as important as the scientific knowledge of what should be provided. Advice upon both phases of nutrition are important if feeding difficulties are to be avoided.

REFERENCES

1. Aldrich, C. A.: *"Cultivating the Child's Appetite,"* The Macmillan Company, New York, 1928.
2. Cannon, W. B.: *"Digestion and Health,"* W. W. Norton and Company, New York, 1936.
3. Smith, C. H.: Paper presented before South. Med. Assoc., Baltimore, 1936.
4. Krost, G. N. & Epstein, I. M.: *"Edema in the Newborn due to Prelacteal Feeding,"* J. Pediat. 10: 221 (Feb.), 1937.
5. Best, C. H. & Taylor, N. B.: *"Physiological Basis of Medical Practice,"* 1937, William Wood & Co., Baltimore.
6. Davis, C. M.: *"Brennemann's Practice of Pediatrics,"* Vol. 1; Chap. 30, W. F. Prior Co., Hagerstown, Md., 1937.
7. Stolz, H. R.: *"Resistance to Eating Among Preschool Children,"* Calif. & West. Med. 40: 159 (March), 1934.

EARLY HOSPITALIZATION

Medical science has been revolutionized since 1900.

Just 36 years ago one of the veteran hospital administrators in this State was superintendent of a 50-bed hospital.

He said the other day, that the old institution didn't have a telephone; it had no signal system, no x-ray, no electrocardiograph, no basal metabolism machine, no insulin, no physiotherapy, no scientific ventilation. Such things either hadn't been thought of or were too new then.

Baths were given in portable tubs. When a doctor was wanted the steam whistle tooted for him. Food was just food of the boarding house variety.

Visiting hours terminated when a nurse raised a din in the corridors with a clanging school bell, regardless of the condition of the patients!

In those days of relatively little science the number of hospital employees figured about one to every two beds. Patients stayed an average of 31 days. The death rate was three times higher than it is today.

Today a hospital can't get along with less than one employee to a bed. But patients stay an average of only 11 to 12 days!

OUR HOSPITAL PROBLEM AND HOW IT AFFECTS ORGANIZED MEDICINE

By R. J. WILKINSON, M. D.
Huntington, W. Va.

FOR THE past twenty-two years it has been my lot to be the head of a railroad hospital and during this time I believe that all the problems incident to hospital management have been dealt with.

Early in my experience it was my dream to own and manage a hospital since it appeared to lend dignity and prestige to a surgeon to be thus endowed. But, as the untold worries incident to managing an institution began to mount with each succeeding year, I soon realized the blessings of not being financially involved.

My sympathy goes out to the physician or group of physicians who have spent their life's savings plus an indefinite indebtedness, in providing community hospitals. To this great number of physicians the public owes a debt of gratitude. Even though the erection of such institutions was not altruistic in its inception, it has been the medium of teaching the people the advantage of hospital care in time of sickness and has been the means of saving untold thousands of lives. With the masses thus educated the demand for hospital care has reached the point where doctors can no longer provide sufficient bed space, not to mention the other enormous expense incident to maintaining an accredited institution. So the hospital should be a community problem and the physician relieved of this responsibility; but this ideal cannot be realized until the public is more thoroughly educated or becomes hospital minded.

The rapidly changing economic conditions, plus the increased demand for hospitalization, regardless of the patient's ability to pay, present a complex problem for such institutions; a problem of sufficient importance to merit the wholehearted interest of every physician, for after all we are vitally affected whether we are doing hospital work or general practice. It is our duty then to lend every assistance in an educational program to the end that all hospitals will ultimately be either municipal or church operated and supported by the public. Unless such a program is adopted and vigorously backed by the profession, it will be but a short time until the Federal Government assumes this responsibility by building and operating large hospitals in our principal cities. When this occurs it will be without regard for the privately owned institution and will mean an enormous financial loss to the owners.

The great coal mines of our state, in which thousands of men are employed, are of necessity located in rather remote sections and to care for these men properly in time of sickness, it became necessary to erect hospitals that would be accessible. The good doctor arose to the occasion and provided hospital space for the men, but, before becoming so financially involved it was necessary that he be given some guarantee to cover a fixed overhead charge. To accomplish this the check off system was adopted and has been in force since. That there have been abuses in this practice no one will deny. It is along this line that I wish to invite your attention now.

Many of the abuses of contract practice were eliminated recently by legislative enactment which dealt with compensable injuries and forbade corporations from confiscating a part of the check off. However, the question of allowing the patient to select both hospital and physician is still one that must be solved without jeopardizing the privately owned hospital; provided this hospital is modernly equipped with a competent staff.

No one will deny that every patient is entitled to the benefits offered by modern medicine and also we must admit that the employer has a large interest here because of a valuable employee's absence due to sickness or the effect upon the compensation rate in the event of injury.

Many hospitals measure up to the minimum requirements of the American College of Surgeons but at the same time their volume of work is not sufficiently large to justify the employment of physicians who are highly trained in some of the specialties. These men must, of necessity, locate in the cities where they can draw from a large territory, and it is to this group of doctors that many patients should go for treatment if the best results are to be anticipated. The present check off precludes this privilege and herein lies the great evil of this system. Therefore, we have a situation that affects patient, hospital, doctor and employer. I think we are all agreed that unless the medical profession is willing to accord the patient this consideration we can expect the labor organization, through government interference, to take over both the hospitalization and professional care of all classes of labor. When once entrenched it is but a stepping stone to a nation-wide government control of all hospitals and a regimentation of the medical profession. The Veterans' Hospitals stand as a towering menace to organized medicine and it behooves us to use our influence to the end that veterans be cared for in other hospitals on a per diem basis; the professional fees to be determined upon by some disinterested board. These hospitals should be state or municipally owned and run as eleemosynary institutions because every state needs more such plants. Personally, I am not in sympathy with the rehabilitation program that is supposedly state operated but after all is financially backed by the Federal Government. This is but another wedge that is being driven home by those who are opposed to our present system of government and medical practice. It is indeed fortunate for the medical profession that some far-sighted men representing our medical organization were able to gain control of the distribution of this money. My congratulations are extended this committee for their untiring efforts, yet at the same time I sympathize with them, for regardless of the tremendous work and responsibility in equitably distributing these cases I am sure many physicians will feel that they have been discriminated against. When we all realize that charity cases belong to their respective communities and that their rehabilitation and medical care should be a local responsibility, then and not until then can we hope to be relieved of the menace of governmental interference.

No doubt many physicians feel very secure in that their contract gives them a large monthly check off but are unmindful of the sinister influence that is working against organized medicine. It should be obvious that when government control is affected it will have no regard for individuals but all will share and share alike. I am firm in my belief that the medical profession is big enough to rise above petty jealousies; to study this problem honestly and unselfishly and from this study evolve a plan that is equitable, having due regard for the patient's welfare.

Assuming this to be true, it was my privilege to offer a resolution at the recent meeting of the Council at Clarksburg which reads as follows:

"That the chairman appoint a committee from the Council to study this problem with corporations, labor, physicians and hospitals with the idea of establishing a subsidiary to the medical organization to collect all money deducted from employees for hospital and medical service; that a standard rate for hospitalization be fixed and a schedule of professional fees be determined, and that from this money so collected all such fees be paid. By this plan the patient is given the privilege of selecting both hospital and physician." The Council unanimously endorsed the idea because it offered something concrete and during the discussion the point was made that

all types of labor could be included, the monthly deduction depending upon the income of the individual and the number of listed dependents. Our thought was to try this out with a few companies and if the results merited an expansion then the entire state could be included. Through the efforts of Dr. Shanklin some such plan is now in operation in the Welch-Bluefield territory and has been satisfactory except perhaps that the coal company acts as distributing agent and the men are restricted to only four hospitals. In this connection very serious thought should be given to the question of hospital insurance, leaving the matter of professional fees to the physician and patient. Undoubtedly, this idea is spreading throughout the country and I rather believe it will ultimately include all types of patients. For the patient whose income is limited, a fixed schedule of fees for professional work can be adopted and in many instances the employing agent will allow this to be paid by a monthly deduction. Some such plan should be welcomed by the working man since it affords his family the best care at a minimum price and obviates the necessity of mortgaging his soul to some loan shark or becoming a public charge.

Time will not permit a full detailed discussion of all the advantages offered by an organization of this kind but briefly it might be mentioned that it holds the practice of medicine within our own organization.

Thought should be given to the question of local county medical societies fostering such a plan with the state society's endorsements. It is perfectly possible a scheme of this kind might more nearly meet the needs.

My years of experience in both the practice of surgery and being in charge of a railway hospital lead me to the conclusion that no hospital, where efficient work is being done, need worry about losing patients under this plan. On the other hand if a hospital is not rendering adequate service then they should, by every process of reasoning, not expect patronage. So, after all, when a hospital is afraid of competition, it is a self-evident fact that the patients are not receiving the proper care. I am convinced that for every patient lost by some such plan, the efficient institution will gain one or more. Not only is this true but here the hospital will be paid for service rendered and the physician for work actually performed, thereby eliminating the abuses that occur under the present check off system.

Unquestionably, the amount deducted from, say a miner's income for hospital and medical care, has been ridiculously low and if we are to give them an increased service it should follow that this amount be increased sufficiently to meet the needs.

No doubt many of you are curious to know how the Chesapeake and Ohio Hospital is operated, and has anything been done to correct this contract practice. In view of my remarks, I think this is a pertinent question and I shall attempt to outline briefly our organization.

The Chesapeake and Ohio Employees' Hospital Association is controlled by a Board of nineteen members; ten of this number are elected by the employees annually, while the minority or remaining nine are appointed by the president of the Chesapeake and Ohio Railway. This gives the employees a majority and since all rules and regulations are promulgated by this Board, it becomes obvious that the employees are running their own hospitals. This Association affects all employees of the Chesapeake and Ohio Railway who are cared for at our own hospitals or by contracts with private institutions in four states. The employee is privileged to enter any of these hospitals regardless of location. The physicians are paid a salary for their work. The monthly check off for employees is based upon the individual earnings, the maximum being $2.20 per month and the minimum 80 cents per month. Everything is furnished the employee except treatment for venereal and mental diseases and should the service of a specialist, who is not connected with the Association, be needed, the Association assumes this expense.

Employees' dependents are given a hos-

pital rate at the Huntington and Clifton Forge hospitals; the employee being allowed to sign an order covering both hospital and professional fees and the Railway Company in turn deducts a specified amount monthly to cover this charge.

Recently it was my pleasure to present to our Board a hospital insurance plan for employees families. By this plan the patient could enter any hospital and have any physician, the cost of hospitalization being paid by the Association, and the professional fees by the patient.

This was done to overcome the objectionable feature of requiring these cases to patronize either Huntington or Clifton Forge hospitals if they used the reduced rate. Our staff joined me in the belief that such insurance would in no way jeopardize our practice. In other words, we are willing to meet competition and if our services are not as good or better than offered by other hospitals, we are willing to stand the consequences.

I wish time would permit me to outline fully our professional staff and how it has been possible to build it to a high point of efficiency. This has been accomplished by selecting efficient men and then backing them; in other words, they have been put absolutely in charge of their respective departments in railway work as well as private cases. In doing this, I find myself relegated to the abdomen and pelvis, but strange as it may seem, my financial returns have justified my action, not to mention the real joy of being helpful to the young physician, plus the satisfaction of working with such an organization.

In conclusion may I again remind you that organized medicine of West Virginia is on trial and that the verdict depends upon the physicians being able to solve the problems which so vitally affect us all.

RECENT ADVANCES IN THORACIC SURGERY*

By JOSEPH A. SOFFEL, B. S., M. D.
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THE problem of chest surgery has been attacked with considerable trepidation until recent years; however, greater advances have been made in the past ten years in this field than in almost any other. This field requires the skill of the general practitioner in recognizing atypical pulmonary pathology, the experience of an internist specializing in lung conditions for conservative treatment, the diagnostic ability of the radiologist, the examination and treatment of the bronchoscopist, and last of all the care of the surgeon. For successful diagnosis and treatment, closest cooperation is necessary between all five.

One of the fundamental principles of pulmonary surgery lies in the recognition of the negative intrathoracic pressure which is about -9 mm. of mercury at the end of inspiration and -7.5 mm. of mercury at the end of expiration. The diaphragm descends 12 to 12.5 mm. even on very quiet respiration. The negative tension of the chest is a great factor in drawing the blood into the great veins and filling the right heart. A second important factor is the amount of pulmonary ventilation. In normal respiration the pulmonary exchange is between 500 and 600 c.c. This is known as tidal air. After average inspiration is complete, 1500 to 2000 c.c. more of air can be taken in. This is called complemental air. After average expiration about 1500 c.c. of air can be exhaled. This is called supplemental air, or residual air. The sum of these factors; namely, the greatest expiration after the greatest inspiration, is called the vital capacity and can be measured by the spirometer. Patients whose vital capacity is almost as low as the tidal air should not be subjected

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to thoracic surgery. On intrapleural operations the pleural incision puts an end to the negative pressure of the chest, allowing the atmospheric pressure to collapse the lung. This cuts down markedly the function of this lung, decreases the mechanical aid to the venous circulation and lessens the functioning of the mediastinal wall. This is the cause of death in patients whose chests are opened without proper preparation.

The early thoracic surgery was limited to paracentesis and rib resection for empyema. Following the World War, great impetus was given to thoracic surgery by the experience gained in the care of the gunshot and shrapnel injuries to the chest and heart. One of the pioneers in the field of chest surgery is Sauerbruch of Germany who, in 1920, reports five cases of his own and three of his assistants in which they performed resection of the lung, excision of tumor of the lung, and lobectomy for bronchiectasis. Of these, one patient was alive over five years, and another lived over two years. Among the others there is Lilienthal who reported a lobectomy in 1929. Harrington reports three partial lobectomies for malignancy who died within the year due to recurrences. More recently Churchill of Boston reported two cases of lobectomy in 1932, one of whom died at the end of three days from bronchial pneumonia, and the other was alive at the end of four months. Edwards reports a pneumonectomy in 1932 with no symptoms at the end of two years, and a lobectomy of the right middle lobe who had no symptoms at the end of thirteen months. Allen and Smith and Niesen report lobectomies which were successful. Evarts Graham of St. Louis reports seven cases of cautery pneumonectomy for malignancy, three of whom died within a three month period, and four of whom have not been followed long enough to report.

Prior to 1933 there were six cases in which patients have survived one year or more after surgical removal of the lung for malignancy. Graham also reports the successful total removal of the left lung in 1935. William Rienhoff, Jr., of Baltimore, reports two cases of removal of the whole lung which were successful. Overholt of the Lahey Clinic in Boston presented eight cases of total pneumonectomy with four patients alive and well. Two cases were also reported by Sauerbruch, one by Churchill, two by Edwards, and one by Allen and Smith.

The newer methods of anesthesia have contributed in a large part to the safety in thoracic surgery in recent years. In 1904 Sauerbruch devised a negative pressure chamber for thoracic operations in which the pressure was -9 mm. of mercury. The operation was performed with the patient, the surgeon, and his staff in the chamber, while the head of the patient and the anesthetist remained outside. This was rather cumbersome and difficult to manage. The next advance was made by applying positive pressure during anesthesia either by having the patient's head and anesthetist in a positive pressure chamber equal to plus nine mm. of mercury, or applying the air-tight anesthesia mask and applying pressure by air pump. As early as 1895 Tuffier and Hallion showed that intrabronchial pressure of plus 10 cm. of water was sufficient to prevent collapse of the lung. In 1909 Melzer and Auer showed the usefulness of intratracheal anesthesia in animals. In 1910 Ellsberg showed the value of intratracheal anesthesia in humans. One of the recent methods of applying positive pressure anesthesia is by a tracheal catheter introduced through the nose. The catheter is then connected to the anesthetizing machine with the rebreathing bag in circuit. By this method anesthesia can be obtained by gas and oxygen or ethylene. This method is used in the Mayo Clinic. In the Lahey Clinic in Boston and in the Johns Hopkins Hospital in Baltimore the positive pressure is supplied by the insertion of a tracheal tube through the mouth. This is then covered by an air-tight mask which covers the patient's mouth and nose. The use of a mercury or water manometer in the circuit gives the anesthetist check on the amount of pressure. This is very

valuable, although the surgeon in operating can advise the anesthetist whether greater or less pressure is needed.

In the Lahey Clinic they are now using the cyclopropane about 20 to 80 per cent oxygen for this purpose, using an air-tight circuit, with a carbon dioxide resorption method. This is necessary in the cyclopropane because of the extreme cost of this drug, but it provides a very smooth and easy anesthesia. The patient's color remains good because of the large percentage of oxygen. A third method of supplying intratracheal anesthesia, used by Graham, is by the insertion of a tracheal catheter with an inflatable cuff, which fits the trachea snugly. With any one of these three methods the anesthetist is able to collapse, distend or hyperventilate the lung as needed.

In the diagnosis of pulmonary conditions several additions have been made to our armamentarium. However, the study of the patient must always begin with our tried and true clinical method. A careful history must be taken and a thorough physical examination must be made. Fluoroscopic examination permits the recognition of intrapleural adhesions and their action on adjacent viscera. Stereoscopic x-ray films are made, and in some clinics films are taken with the patient lying on one side and on another, as well as true lateral pictures of the chest. Bronchoscopy is of great value in exploring the bronchi and their branches for obstruction and neoplasm, and permits biopsy for diagnosis. The injection of contrast material into the bronchial tree has become frequent both for diagnosis and for treatment. Some of the text-books speak of the method of needling the lung through the thoracic wall for biopsy, but the disadvantages and dangers of this method are immediately apparent. In cases in which exploratory thoracotomy is justifiable this may be done under positive pressure anesthesia and the lung can be visualized through an intercostal incision with separation of the ribs.

In the treatment of pulmonary tuberculosis great advances have been made in the last few years. The diagnosis is established in the usual manner, following the history, clinical examination, sputum examination and x-ray findings, and the customary conservative treatment applied. Those cases which fail to respond to the conservative treatment will often show considerable improvement when some of the more recent procedures are applied. The induction of pneumothorax is of great value in collapsing cavities and produces physiological rest of one lung and permits the protective walling off and fibrosis of pulmonary regions. The injection of 200 to 300 c.c. of air into the pleural cavity is done under careful manometric checking so that a slight negative pressure is still maintained. This procedure required frequent refills and careful x-ray follow-up.

In those cases in which there are adhesive bands between the viscera and parietal pleura, the procedure of thoracostomy is called into use. The thoracoscope is inserted into the posterior portion of the chest cavity through a trochar, and the adhesions may be visualized by a series of lenses. When it is desired to sever adhesions or bands, this can be done under vision with one of several instruments devised for that purpose, one of which enters through the original exploratory wound; the other requires a separate opening to be made in the anterior or lateral portion of the chest and the electrode is carried in. The adhesions are severed with either the cutting or coagulating current.

In those conditions in which it is desired to produce a permanent collapse of the lung, phrenicectomy is performed. The phrenic nerve is exposed under local anesthesia before it crosses under the clavicle, and it is either sectioned or avulsed. This procedure causes the diaphragm to rise about two interspaces and decreases the volume of the lung.

For chest lesions which fail to respond to the above mentioned procedures, and in which it is desired to collapse the lung, thoracoplasty is performed. This may vary in its scope from the selective type in which portions of several ribs are removed over a lesion

and pressure applied, to the most radical type in which, in multiple stages, all of the ribs which prevent collapse of the lung can be removed, even including the transverse processes of the vertebræ.

The treatment of bronchiectasis has also undergone considerable evolution. The treatment of this condition in previous years has consisted in postural drainage and bronchoscopic drainage. The cases which have failed to respond to these means have been treated by lipoidol injection which has been of diagnostic aid, and also of value in treatment. In recent years thoracoplasty and lobectomy are used.

The procedure of lobectomy varies in the hands of different operators. In cases of bronchiectasis the patient must be prepared for operation by postural or bronchoscopic drainage. The use of autogenous vaccine is of value. Some clinics are now using intrathoracic injection of immunized serum. The operation itself is usually done in several stages, the first of which consists in thoracotomy and manipulation of the visceral pleaura to form adhesions more or less walling off the operative field. The second stage procedure is done from several weeks to several months later. The affected lobe is exposed, freed, and its root narrowed down as much as possible. Several constricting tourniquets are applied on the distal side in order to prevent the contamination of the field. The remaining stump is sutured over and over and ligated again and the tourniquet removed.

Lobectomy can also be done in stages with the cautery. In this procedure the first stage consists in suturing the lung to the parietal pleura and subsequent procedure consists in cauterization of the lung.

The treatment of carcinoma of the lung has undergone a radical change from the watchful waiting and hopeless prognosis of years ago, to the prospect of early diagnosis and removal of the malignant tumor. The diagnosis is made by careful x-rays, biopsy by bronchoscope and the examination of the sputum, in addition to the previously mentioned regular clinical examination. It is necessary to examine carefully to eliminate metastasis before undertaking operation. The removal of the malignant focus is accomplished by pneumonectomy. Again, the patient must have careful preoperative care, careful and courageous surgery and alert postoperative treatment. The preparation of the patient for thoracotomy consists in general measures to have him at his peak of resistance and locally in frequent fillings of the pleural cavity with air until the lung is almost entirely collapsed.

The operation is done in some clinics under avertin anesthesia supplemented by the positive pressure anesthesia previously described; in others, the positive pressure anesthesia alone is sufficient. The exposure is usually by an intercostal incision from behind, forward in the seventh interspace and separation of the ribs with retractors. In some cases it is necessary to sever the rib above and below the incision to increase the exposure. The lung is gently freed from adhesions with a minimum amount of manipulation. Several tourniquets are applied in the hilum of the lung proximal, and another is applied distal to the point of severance. As a safety measure, several curved hemostats can be placed above the tourniquets to avoid retraction of the pedicle. The hilus is then severed with the cautery. The pedicle is ligated by transfixing the bronchus and tying the ligature both ways. The bronchi are then closed separately. The stump of the hilus is then sutured over and over with the running suture, the proximal tourniquet is removed and another ligature is applied. The distal ligature is then removed. The intercostal incision is then closed as nearly air tight as possible, the cavity fills with fluid and exudate which later develop fibrin. At the end of twenty-four to forty-eight hours the chest may require drainage in a dependent portion. The expansion of the opposite lung and displacement of the mediastinum and narrowing of the intercostal spaces all tend to obliterate this cavity.

The recent case reported by Evarts Graham was one of our brother physicians from Pittsburgh in whom total removal of the lung was done very much in the manner in which we have described. However, complete thoracoplasty was done subsequently.

Another field in which great progress has been made has been in the surgery of the heart. Some of the conditions which require surgery of the heart or pericardium are stab and gunshot wounds, crush fractures of the sternum, purulent pericarditis with or without adhesions, and embolism of the pulmonary artery.

Two operations which are now used in adhesive pericarditis are the Brauer and Delorme operations. The Brauer operation is used when the heart and pericardium are adherent, and the pull on the heart is caused by the extrapericardial fixation. This operation consists in unroofing the pericardium. The costal cartilages are severed which overlie the pericardium and sufficient of the ribs and sternum are removed, and the pericardium is freed by blunt dissection so that the parietal pericardium is free to move with the visceral pericardium at each cardiac impulse.

The Delorme operation is of value for constricting pericarditis or the relief of Pick's syndrome. In this condition there is usually interference with the venous flow into the auricles and the arterial output is therefore lessened and the work of the heart hampered. These patients present the picture of myocardial damage and the chronic passive congestion. The heart is constricted by a thickened pericardium which interferes with the inflow and outflow of blood. Simply freeing the pericardium from the chest wall will not suffice. Pericardiectomy must be done if relief is to follow. This was first described in 1898. Wyle appreciated the fact that adhesive pericarditis could be so treated. In 1895 Beck described the operation on animals. In 1901 Rehn was the first to perform this operation on a person. Schmeiden of Frankfort, Germany, has had the most experience with this procedure, and we will use his description of the technique.

There are two approaches, one of which is between the pleura and the other across the pleura. A skin flap is formed which includes the area over the left third, fourth, fifth and sixth ribs as a broad lateral base and extends across the midline to the right sternal border. After lifting up the flap, the costal cartilages are cut close to the sternum and by gradual dissection the sternum is freed and rounded off with the rongeur forceps exposing the pericardium. The procedure consists in dissecting the scarred and adherent pericardium from the heart itself. This is done most easily over the auricles, but the danger consists in freeing the auricles from the supporting tissues and their dilatation due to the forceful thrusts of the ventricle. The diaphragmatic portion of the pericardium surrounds the apex of the heart tightly binding it down. As these tissues are freed the heart is seen to expand and assume its normal position.

Churchill has collected the results of 37 cases in which seven deaths were due to the procedure; in five cases the operation could not be completed, two cases showed no improvement, five cases have transitory improvement and death from incurrent diseases, and 20 cases had excellent results.

Of the ten attempts at widening stenosis of the inner cardiac openings through incisions of the heart, nine were done for stenosis of the mitral valve and one for congenital pulmonary stenosis. The first patient operated on by Cutler lived four and a half years, the other nine died either of cardiac failure or pulmonary complications. Two lived six days, and one lived three days; the other six died in the first twenty-four hours. The operation for incising the mitral valve through a cardioscope was worked out on experimental animals by Graham, Cutler and others, but the mortality is very high.

The Trendelenberg operation for pulmonary embolism has been best worked out by the Greitz Clinic, Stockholm. It requires that all of the nurses and staff shall be able

to recognize the first signs of pulmonary embolism, and a skilled operator and operating room to be always in readiness. Since 1908, 20 attempts have been made to remove an embolism from the pulmonary artery. These were not successful until 1924. The operation consists of a pericardiotomy. It requires strangulation of the pulmonary artery and the aorta for forty-five seconds while the incision is made into the pulmonary artery and the clot evacuated. The question which arises with regard to this procedure is that the number of cases which are wrongly diagnosed and operated upon had probably caused a greater mortality than the number of cases which have been saved by immediate operation.

Winslow and Shipley report the study of one hundred and twenty-eight cases of purulent pericardial effusion which were treated surgically, and include seven cases of their own. In listing the causing factors and bacteriology of these cases, 72 lived and 56 died; primary operative results. A list of mortality according to etiology shows twelve gunshot and stab-wound patients who lived. Fifty cases were due to pneumonia and fifty per cent lived. Of the seventy-five cases due to respiratory lesion, 49 per cent lived. Eight cases were due to pyemia and 37 per cent lived. The cases due to osteomyelitis were 15, and 33 per cent lived.

In operating for pyopericardium Shipley uses a trephine opening through the sternum through the triangle of safety or the Spangaro approach. The former is through a small triangular area uncovered by pleura situated in front of the pericardium. It begins at about the level of the anterior ends of the fourth ribs and extends downward to the diaphragm which, in midline, is about behind the junction of the second portion of the sternum with the ensiform. This triangle has its apex up and base down and is just a little to the left of the midline. Its size will depend on the size of the patient and the amount of bulging forward of the enlarged heart or distended pericardium. A trephine opening is made at this point, the areolar tissue separated, and the pericardium located and opened between clamps. In a small thin individual the pericardial cavity can be palpated through this opening. In a larger individual it is necessary to enlarge this opening downward and to the left, using a rongeur forceps; however, the pleura must be avoided during this procedure. In his drainage of purulent pericarditis several Dakin's tubes are carried into the pericardial cavity after it has been explored with the finger and any adhesions present separated. The skin wound is then closed. In the Spangaro approach which is used in the case of stab wounds or gunshot wounds of the heart, the incision is placed according to the skin wound but may follow the fourth interspace from the anterior axillary line to the margin of the sternum where the sternal attachments of the third, fourth, fifth, and sixth cartilages are exposed and as many of them separated from the sternum as is necessary to give good exposure. This is improved by the use of a rib retractor, and the one described by Lilienthal is very satisfactory. It is advisable to avoid opening the pleura if possible. The internal mammary vessels are ligated; the pericardium is then opened between clamps. If necessary, the sternum may be gouged away with rongeur forceps. The blood is sponged away and the bleeding point located as rapidly as possible and covered with the finger. A suture placed on either side of the finger may be used as a tractor, and while these are held together interrupted sutures are placed, closing the wound. The pericardium is then closed loosely and the rib ends replaced and tied together with heavy catgut, and the wound closed as tightly as possible.

C. S. Beck has devised operations for relief of coronary sclerosis and angina pectoris. This has been produced experimentally in animals by ligation of the vessels. The pericardium is opened, the visceral and parietal pericardium roughened with gauze, and pedicle grafts of pectoral muscle placed upon right and left ventricles turned in from the chest wall and the wound closed. The experi-

mental results have shown that collateral circulation is established in this manner and relief of the coronary symptoms follow. His papers report numerous patients relieved by this technique.

Lung abscesses are usually opened in multiple stage operation in which the affected portion of the lung is made to adhere to the parietal pleura and at a later date the abscess located with the needle and opened with the cautery.

Bronchial fistula may follow any operation in which a portion of the lung is removed. It frequently follows the cautery pneumonectomy.

There is also a rather rare condition known as pulmonary apoplexy of which I have fortunately seen one case. In this condition an elderly individual suddenly develops pulmonary hemorrhages and expectorates pieces of tissue. In the case in mind, the patient was 84 years old and pathological examination of the expectorated tissue showed it to definitely be lung tissue. Under conservative treatment the patient recovered and this past winter was cared for by another physician for pneumonia and recovered.

Bronchial asthma is now being treated by intratracheal injection of iodized oil. One clinic reports the use of this procedure in 300 cases. Eliminating that group in which the cases were complicated by hypertrophic emphysema, pneumoconiosis, healed tuberculosis, chronic laryngitis and tracheitis with extreme sensitivity of the bronchi, this procedure produced complete relief in ninety per cent of the cases.

In conclusion we have noted considerable advance in the methods of diagnosis in the diseases of the chest, both of the lungs and of the heart. Great progress has been made toward the surgical care of these conditions which have been diagnosed. To the present time mortality is still high, but is much reduced over that of previous years. I also feel that these operations, which are still quite formidable, are becoming more frequent. As a better technique is being developed, greater safety factors are added and in the future, we can look forward to the saving of many patients who would otherwise be doomed to die.

BIBLIOGRAPHY

Anderson, William: *The Treatment of Bronchial Asthma by Intratracheal Injections of Iodized Oil.* New York State Journal of Medicine, 36, 1936.

Overholt, Richard H.: *Selective Thoracoplasty in the Treatment of Pulmonary Tuberculosis.* Annals of Surgery, January, 1935.

Reinhoff, William F., Jr.: *Technique of Total Pneumonectomy and Lobectomy.*

Overholt, R. H.: *Pneumonectomy for Malignant and Suppurative Disease of the Lung.* Journal of Thoracic Surgery, 5, No. 1, October, 1935.

Shipley, Arthur M.: *The Operative Approach to the Heart and Pericardium.* Surgery, Gynecology and Obstetrics, 54, February, 1932.

Graham, E. A. and Singer, J. J.: *Successful Removal of an Entire Lung for Carcinoma of the Bronchus.* J. A. M. A., 101:1371, 1933.

Watson, J. M.: *Auto Transfusion in the Treatment of Wounds of the Heart.* J. A. M. A., February 15, 1936.

Beck, C. S.: *Coronary Sclerosis and Angina Pectoris.* Jour. Surgery, Gynecology and Obstetrics, Feb., 1937.

FIRST AMERICAN HOSPITAL

The first hospital in the United States was built in 1660 in New York City.

It also was the first industrial hospital in the new world.

The Dutch built it; they held New York in those days. There were then only 10,000 people in the entire province. The biggest industry was the Dutch West India Company. Among the employees were soldiers and West India negroes who often fell sick.

Dr. Hendricksen Varrevanger was the company surgeon. At his request the company erected the hospital at what is now 25 Bridge Street. The first matron was Hillteje Wilburch. The building was torn down about ten years later.

Industrial medicine goes back many thousands of years. In very ancient Babylonia the temples also served as industrial establishments. They employed many workers who turned out wool, woven goods, dairy products and other necessities.

Some ancient Babylonian kings had physicians to make regular calls on these workers. And the reports of those periodic health examinations were sent to the king himself.

Which shows that periodic health examinations are not new at all. If this enlightened age would practice that, it would take a big slice out of this country's three and a half billion dollar medical bill.

EVIPAL ANESTHESIA*

By HAMPTON ST. CLAIR, M. D.
Bluefield, W. Va.

EVIPAL soluble, which is one of the barbituric acid derivatives, namely N-methyl-cyclo-hexenyl-malonyl-urea, rather closely related to nembutal and amytal, was isolated by Kropp and Taub in 1932 in the course of their experiments on barbituric acid. Through experiments its pharmacalogic action was established by Weese and shortly thereafter it was being marketed under the trade name of evipan and being used as an intravenous anesthetic in many foreign countries. It is rather surprising that it does not appear in the literature of this country until about the middle of 1934 when White and Collins[1] report on its use in a series of 50 cases. At this time there were numerous articles in the foreign literature, particularly that of Germany and Great Britain, reporting on some 50,000 cases in which evipan, or evipal as we know it, had been used. If we may use medical literature as a criterion, we were still rather slow in taking up this new form of anesthesia as it is not until December of 1934 that we find a second report[2] of its use, this time in a series of 280 cases. In the following years we find that it has gained in popularity, its use is more general, and the reports of its use in a series of cases are no longer scarce.

Evipal is a white powder which is readily soluble in water, forming a clear solution. As the solution is not stable a freshly prepared one should always be used. The action of the drug is best described by an example of its use. Soon after the intravenous injection of the drug is started, when about two or three c.c. have been given, the patient seems to become drowsy, if he has been talking conversation lags, he may yawn and then fall into a deep sleep. This occurs usually in less than a minute after the injection was started. As a rule there is no sense of smothering, excitement or struggling. The patient then resembles one in a natural sleep, respirations usually become deeper and at times slower, there is no cyanosis, the pulse rate is slightly increased, the blood pressure slightly lowered and muscular relaxation sets in almost at once. This sleep continues for from five minutes to several hours, depending on the dose administered. Awakening is usually quiet and the patient remembers nothing following the introduction of the needle. After reaching his bed again, if left undisturbed, the patient usually goes into a natural sleep of varying duration.

Evipal is eliminated or detoxified in the liver, where the drug undergoes chemical disintegration. Only faint traces of the unchanged drug have been found in the urine and feces. This detoxification is very rapid. Half the amount given is said to be eliminated in the first 15 minutes. This rapid elimination gives a control of anesthesia which is nearly that of gas and ether.

As is true of all other anesthetics it is possible to give an overdose which may result in death. Maloney and Hertz[3] working with rabbits and dogs point out that death in overdosage is due to respiratory paralysis, the heart continuing to beat a short time after breathing has ceased. They also found that the dog shows less tolerance for the drug than either the rabbit or the cat, the anesthetic dose in the dog being 50 per cent less per unit of body weight. The therapeutic index in the case of the cat has been found to be four, that is, a dose of 25 mg. has been found to produce narcosis, while 100 to 110 mg. are necessary to cause death. In the dog it is somewhat less, the index being 3.3. There seems to be a decrease in tolerance for the

*Read before the Mercer County Medical Society at Bluefield on June 18, 1937.

drug as the central nervous system becomes more highly developed, the anesthetizing dose in man being about 10 mg. per kilo., a great deal less than required in the lower animals.

It is rather hard to limit the indications for evipal. It was first used in minor surgical operations where only a short period of anesthesia was desired. This limitation was applied principally because it was thought that the use of over one gram of the drug during a single period of anesthesia was unsafe. However, with increased usage and consequent increased knowledge of the drug more major procedures have been undertaken and the length of the anesthesia as well as the amount of the drug given have both increased. Maloney[4] reports quite a number of cases in which the duration of the operation was over an hour and several over two hours. In one of the latter, in which appendectomy, multiple myomectomy, right salpingectomy and left plastic were done, the operation lasted 133 minutes and 4.7 gm. of the drug, or nearly five times what was formerly considered the maximum dose, was given. The surgeon, Dr. J. W. Ross, stated "relaxation good; smooth anesthesia throughout." There is no particular field where the drug has not been used. Goryllos and Bass[5] report on its use in 100 consecutive thoracoplasties for pulmonary tuberculosis, the anesthetic was satisfactory in all cases and the number of cases of operative shock was markedly reduced.

Kassebohm and Schreiber[6] have used evipal successfully in all manner of forceps deliveries, including forceps to the after coming head, for packing of the uterus and vagina, for manual removal of the placenta, for dilatation and curettage, and for normal spontaneous delivery. In version it was unsuccessful due to the presence of uterine contractions and unaltered irritability of the uterine musculature.

Haskell and Cheleden[7] in an article on its use in proctology, report 100 procedures including examinations, painful dressings and operations in which it was used successfully. Gwathmey[8] has recently used it rectally as preanesthetic medication in cases where ethylene or nitrous oxide were to be used as the final anesthetic. He finds it easier to give than oil-ether per rectum and the results have been just as satisfactory.

As to contraindications, these are best summed up by Widenhorn[9] who gives the following: (1) Patients with liver damage (acute yellow atrophy, ascending cholangitis, severe hepatitis) should not be given evipal since the liver is the main organ in which the drug is detoxified. (2) Severe septic patients and those with general blood stream infections should be eliminated or at least given only very small doses. (3) Patients with mechanical interference with the air passages (septic angina, Ludwig's angina, the presence of a foreign body in the upper respiratory tract) are not suitable subjects for this type of anesthesia."

As mentioned above, evipal is a respiratory depressant and when an overdose is given breathing may become irregular or even stop. In the event of an accident of this kind, picrotoxin and coramine, powerful respiratory stimulants, are life savers. Some observers feel that coramine should always be on hand when evipal is administered and Maloney[4] gives routinely two c.c. of 0.3 per cent of picrotoxin intramuscularly before the injection of evipal is started. The use of these stimulants in conjunction with artificial respiration and inhalation of a carbon dioxide-oxygen mixture have overcome any respiratory embarrassment in nearly all reported cases.

As to the safety of the drug the anesthetic committee of the Medical Research Council of Great Britain reports on 25,000 cases observed in German clinics with only one death attributed to evipal.[1] It would thus seem that it is safer than any of the other anesthetics now in common use.

Evipal was first used in our hospital in November of 1934 and since that time has been used in about 150 instances, these being equally divided between general surgery and

urology. Our method of administration, which is similar to one form in general use, is as follows: No preanesthetic medication is given. This was considered safer by nearly all observers when the drug first came into general use and as we have had satisfactory results we have continued this practice. At present many feel that morphine given at least one hour before administration of the anesthetic aids in relieving any apprehension on the part of the patient and also promotes more satisfactory anesthesia. It is said not to increase the respiratory depression after one hour. In no case should be barbiturates be used before the anesthetic. The patient is placed on the operating table and all preparations which can be done without pain, such as placing in position, sterilization of the field and draping, are made. In other words it is desirable that the operation may be started as soon as anesthesia is obtained. The drug which comes in two ampules, one containing one gram of the drug and the other 10 c.c. of triple distilled water, is prepared by dissolving the salt in the water and placing the resulting solution in a syringe fitted with an ordinary hypodermic or slightly larger calibre needle. A vein, usually the median basilic, is selected and the skin overlying it prepared in the usual way. When the surgeon signals that all is in readiness the vein is punctured and the injection of the drug started. It is then administered at the rate of one c.c. every ten seconds until the patient falls asleep. Many instruct the patient to count slowly when the injection is started and gauge the point of narcosis by a cessation of counting. We rely more on observation of the patient and the failure to respond to questions. Two to four c.c. of the drug, depending on the size of the patient, is usually required to reach this point. During the next 30 seconds about half of this amount is given slowly and the surgeon is then given the signal to begin. The dose of the drug from this point on is gauged by watching the patient and the progress of the operation. At any sign of awakening before the operation is completed an additional amount of the drug, usually one c.c., is injected. By using this fractional method the depth of anesthesia is better controlled and the danger of overdosage is minimized. Due to the muscular relaxation the lower jaw drops down and must be help up to avoid obstruction to the air passage by the tongue. Another method of administration and estimation of dosage which is recommended by the manufacturers is used by some of us. This is based on an anesthetizing dose of six c.c. of the solution per 100 pounds of body weight. Half of the dose is given in the first minute and the remainder somewhat more slowly. While this has proven satisfactory in most cases it does not take into consideration the condition of the patient or individual differences in reaction to the drug. We, therefore, prefer the first method mentioned as we have found that satisfactory anesthesia is obtained and we feel that it is safer for the patient.

The 75 instances in which evipal has been used in general surgery are as follows:

Dilatation and curettage	37
Incision and drainage of abscesses, etc.	11
Reduction of fractures	6
Dilatation of oesophagus	5
Amputations	4
Removal of breast tumors	3
Repair of lacerations	3
Appendectomy and salpingectomy (bilateral)	1
Excision of fistulous tract (anal)	1
Rupture of membranes	1
Hemorrhoidectomy	1
Amputation anterior lip cervix	1
No operative procedure	1

(Six of these patients had cauterization of cervix, five application of radium, and two introductions of pessary in addition to D. & C.)

In five of our cases it was necessary to use some other form of anesthesia to supplement the evipal. One patient having a D. & C. was very obese and was not sufficiently anesthetized to permit the operation after receiving 10 c.c. of the solution, therefore administra-

tion of nitrous oxide was started. In the excision of the fistulous tract and in one case of removal of a breast tumor the patients began to awaken before completion of the operation. Nitrous oxide was used successfully in both cases. Local anesthesia (novocaine two per cent) was used in two cases before evipal was given, one case an amputation of finger and the other an excision of breast tumor.

The case where no operative procedure was done represents our one fatality which may be attributed to the anesthetic. A negro male, age 38, presented himself at the hospital complaining of pain and swelling beneath the lower jaw. Examination revealed brawny induration beneath the lower jaw and a diagnosis of Ludwig's angina was made. As he seemed to have very little obstruction of the air passages it was decided to incise and drain the affected area under evipal anesthesia. After the usual preparation the injection was begun, when about 3.5 c.c. of the solution had been injected the patient ceased to breath and in spite of stimulants and artificial respiration died. This was of course a sick patient with a serious condition and the outcome probably would have been the same regardless of the anesthetic used. However, it will have to be classified as an evipal death. One other death under evipal with practically the same conditions has recently appeared in the literature.

In nearly all the other cases the anesthetic obtained was satisfactory for completing the surgical procedure, although in several cases there was some struggling near the end.

Dilatation of the oesophagus was done five times on the same patient, a white male about ten years of age. Anesthesia was satisfactory each time and the patient apparently developed no tolerance for the drug. In the department of urology the drug has been successfully used on the same patient eight times for dilatation of bladder and ureter. The last time it was used on this patient a few more athetoid movements were observed but there has been no other evidence of a developing tolerance.

In only two instances have we administered more than one gram of the drug. In one case for amputation at the middle of the lower leg 1.4 gms. were given over a period of 30 minutes. The anesthesia was satisfactory and the condition of the patient excellent at all times. The systolic blood pressure showed a drop from 180 to 160 during the first 20 minutes but returned to the original figure before completion of the operation. In the second case, a colored female, age 24, 2.5 gms. of the drug was given over a period of 35 minutes. The appendix and both tubes were removed. The patient's condition was quite satisfactory throughout the operation and the surgeon stated that the abdominal muscles were well relaxed. This patient remained asleep for about three hours after leaving the operating room. This was apparently sleep induced by the drug as she could not be aroused. However, her condition was not alarming at any time during her poriod of narcosis.

In only two cases have we had any unusual reaction to the drug. One patient was given the dosage as calculated on weight for fulguration of a papilloma of the bladder. The procedure was carried through without any difficulty but the patient remained in an anesthetic state for about two hours. During this time she would occasionally become cyanotic and it was necessary to hold the chin up. Several injections of coramine were given which stimulated respirations. The patient aroused after about two hours but remained quite drowsy for the next twelve. The drug was used on this patient a second time several months later and it was found that satisfactory anesthesia of the usual duration was obtained with half the calculated amount. In the second case a child who apparently went to sleep as usual became quite wild as soon as the surgical procedure was started.

These latter two cases are from the department of urology where this anesthetic has also been used in about 75 instances. With the above exceptions no difficulties have been encountered in its use.

In part of our cases we have kept rather close check on the blood pressure and pulse during the period of anesthesia. Our findings are about the same as those seen in nearly all published reports of the drug. With the exception of a very few cases there has been a fall in systolic pressure ranging from ten to forty-six millimeters of mercury. In no case has there been any evidence of shock. We have come to attach little significance to this fall in pressure. First, because we have found that the systolic pressure in nearly all individuals coming to the operating room without preoperative medication is ten to twenty millimeters higher than when taken in their room the day before. This drop may therefore be a return to normal in the apprehensive patient. Second, because the fall is only of short duration. In all of our cases the pressure has returned to, or nearly to, the original figures before the operation is completed. In about two-thirds of the cases checked we have found a rise in the diastolic pressure varying from five to in one case, forty millimeters of mercury. This also returns to normal before the procedure is completed. In all cases the pulse rate has increased but the volume remained good.

Practically all cases have shown signs of awakening in from ten to thirty minutes depending upon the amount of the drug given. Not infrequently a patient will awaken sufficiently to answer questions before leaving the operating room and will then have one or two hours of natural sleep after returning to bed. Most patients have complete amnesia concerning the operation and complain of no postoperative symptoms which can be attributed to the anesthetic. Several of our outpatient cases have walked out of the hospital one or two hours after receiving the drug.

Summary: 1. Evipal has in a period of a few years become widely known and extensively used as an intravenous anesthetic.

2. Introduced at first for use only in minor procedures its use has been extended until it is now used in major operations of two hours, or longer, duration.

3. It is considered as safe or safer than any of the other anesthetics now in common use.

4. We have found the fractional method of administration more satisfactory than that based on weight.

5. We have used the drug in 150 instances with one fatality.

6. There is usually a fall of systolic pressure, a rise in diastolic, and an increased pulse rate. These are all transitory.

7. Patients have no recollection of the operation and no postoperative symptoms which can be attributed to the anesthetic.

REFERENCES

1. White & Collins: Am. Jr. Surg. XXV, 131, 1934.
2. Livingston, et al: Am. Jr. Surg. XXVI, 516, 1934.
3. Maloney, A. H., & Hertz: Jour. of Lab. and Clin. Med. 20:1260, 1935.
4. Maloney, A. H.: Am. Jour. Surg. XXXIV, 571, 1936.
5. Coryllos, B. N., & Bass, Sara: Annals of Surg. 104:45, 1936.
6. Kassebohn, F. U. & Schreiber, M. J.: Am. Jr. Surg. 31:265, 1936.
7. Haskell, B. & Cheleden, J. J.: Am. Jr. Surg. 34:581, 1936.
8. Gwathney, J. T.: Am. Jr. Surg. 32:411, 1936.
9. Widenhorn, H. L.: S. G. & O., 64:48, 1937.
10. Report of Anesthetic Committee, Lancet, 5731: 45, 1933.

QUEEN ELIZABETH'S SURGEONS

Queen Elizabeth paid her army surgeons about $50 a year.

That was the same pay she gave the lowest rank of non-commissioned officer.

In contrast, she paid one of her musicians, Edward Bassano, about $150 a year, or three times as much as her army surgeon.

A century before that time, Henry V, of England, obliged his low-pay army surgeon to furnish three archers and to pay them from his own pocket. Of course, there always was plunder. But the King limited the surgeon's plunder to about $100 a year. Anything over that had to be shared with His Majesty!

That is a picture of surgery in northern Europe 500 years ago.

It took 500 years to raise it to one of the most honored professions, highly scientific and utterly unselfish.

The army surgeon of 500 years ago "made his" by plundering the military victims; the modern surgeon gives. It is common for the surgeon and physicians to donate of their working time to the poor in hospitals.

SPINAL ANESTHESIA*

By W. L. VAN SANT, M. D.
Hinton, W. Va.

THIS paper is based on the observation of more than two thousand cases operated upon under spinal anesthesia at the Hinton Hospital and the Raleigh General Hospital during the last six years.

I feel that when administered according to indications, spinal anesthesia is the safest anesthesia. The technique of administration is comparatively simple and easy, yet, as with all such procedures, should be carried out with the utmost skill and care.

Drugs formerly used in spinal anesthesia had a high toxicity but are now being replaced by safer drugs which, I believe, to a large extent accounts for the gain in popularity of spinal anesthesia. The standardization and introduction of less toxic drugs certainly seems to leave this method with fewer contraindications, and following its use we encounter fewer postoperative complications than in former years. We use spinocaine exclusively as our results have been so uniformly successful with this drug we have seen so reason to change or to try others. We never use more than three c.c., more often two c.c., and in children one c.c. as a rule suffices. When in the absence of satisfactory analgesia, a second injection is indicated, and we allow a lapse of from ten to fifteen minutes to determine this; it has been found that a second injection of one c.c. has usually given the desired result. However, we have had a few cases in which there was a total failure in obtaining anesthesia.

We have used the ephedrine-novocaine solution not only to anesthetize the skin and deeper tissues preliminary to giving the spinal anesthesia, but also as a prophylactic to maintain the original blood pressure.

I shall not go into the minute details of the technique, which is familiar to all of you, other than to say that we have never given spinal anesthesia to a patient in the sitting position, but always on the side. We inject either through the third or fourth lumbar interspace, usually the fourth; and immediately following the injection place the patient upon his face as this position seems to give a better block to the posterior nerve roots. This position in a five degree Trendelenberg is maintained until the anesthetic has gained the desired level and state of analgesia, which usually occurs in from four to six minutes.

I do not feel that anyone should be given spinal anesthesia who has not had the same preoperative study, preparation, and general consideration incident to any anesthetic, but I have felt justified in concluding that those patients who were considered poor risks for spinal anesthesia were even poorer risks, with few exceptions, for any type of general anesthesia. I am referring to those patients requiring major surgery in all types of operations below the diaphragm.

At the Hinton Hospital we have gradually supplanted other types of anesthesia with spinal, until in 1936 eighty-four per cent of all patients requiring major surgery below the diaphragm were given this type. One point we have noticed occurring rather constantly, is that in short, thick, fat people the period of analgesia is of shorter duration than in other types of individuals.

It would be folly to ignore the ever increasing evidence that spinal anesthesia might be followed by neurological sequelae such as injury to the spinal nerves followed by paralysis or paresthesias, yet these have not occurred in our group of cases.

*Read before the Section on Surgery, W. Va. State Medical Association, Clarksburg, May 24, 1937.

We have had no immediate spinal anesthesia deaths in 1207 cases at the Hinton Hospital. However, we had one death within an hour after a patient was returned to his room following an operation for a gunshot wound involving the urinary bladder and many coils of the small intestine. Whether death was due to the anesthetic or shock, we were unable to determine. If, according to some authors, a death occurs after 72 hours it should not be recorded as a death due primarily to the anesthetic, then we have had only one such death, as above stated.

The advantages of spinal anesthesia are perfect muscular relaxation with absence of straining on the part of the patient, which gives untold advantage to the surgeon in abdominal work, as well as lessening intestinal trauma, thereby minimizing the possibility of postoperative ileus due to intestinal paralysis from either the effect of general anesthesia, or trauma, or both. There certainly would seem to be a minimum interference with cellular and organic activity, as in spinal anesthesia the drug comes in contact only with the nerves that are blocked in the lower spinal segments, and this nerve tissue is the only tissue that it affects chemically or organically. The heart, the lungs, the brain, the kidneys, the liver, and other organs of the body are not saturated with a potent substance which to a certain extent paralyzes their activity, certainly during the period of anesthesia, because the effect of a general anesthetic is based upon the fact that it is absorbed by the blood stream.

Physiologically, it would seem that a small amount of a drug that affects only one tissue is far superior to an excessive dose of a drug that comes in contact with every tissue in the body.

There is a great conservation of the patient's reserve, nervous strength, and psychic control. Aside from the effect of a general anesthetic on the nervous system there is a decided effect on the psychic control of the patient, for during general anesthesia there is absolute abolition of this control exercised by the brain, while in spinal anesthesia there is no abolition in the psychic or reasoning power of the brain. The impulses from the sensory nerves are blocked and do not reach the brain, as in a general anesthesia. The patient is able to take fluids and nourishment immediately following the operation, thereby most often avoiding the necessity of having fluids administered by venoclysis, hypodermoclysis, or proctoclysis.

In cases of acute intestinal obstruction the point of obstruction is usually seen as soon as the abdomen is opened, instead of searching blindly for it among the squirming coils of distended intestines. In several cases of spastic ileus the intestinal spasms were released by the anesthesia alone.

In acute inflammatory lesions of the abdomen a perfect picture of the pathologic phenomena is revealed as soon as the cavity is opened. Postoperative vomiting is seldom observed, and then usually lasts but a short time. Mental depression is almost unknown, and that period of excitement, rapid pulse, and other troublesome complications incident to recovery from a general anesthetic, such as ether, is practically eliminated.

It would not be fair for me to extol the many advantages of spinal anesthesia without mentioning some of the more common complications: Many patients have a transient nausea and gagging; a few vomit during the early stages of anesthesia. Headache, though it does occur, has not been a disturbing factor in our series of cases. Backache seems to be less following spinal anesthesia than after ether or other general anesthesias. The fall in blood pressure, which formerly worried us more as to what might happen than did happen, now gives us little concern, provided the color, breathing, pulse, and general manner of the patient appear normal. In fact, the wide excursions formerly noted in blood pressure readings are not seen so often now.

Early in our series we encountered two cases of sudden, severe shock immediately following injection, which we attributed to

circulatory shock. These responded to artificial respiration combined with the administration of epinephrine and ephedrine.

Some operators have observed palsy of the abducent nerve. We are happy to report that this has not occurred in our series of cases.

We feel that a contraindication to spinal anesthesia would be a general blood stream infection, because of the danger of introducing his infection into the meningeal cavity, thereby causing a meningitis.

The use of spinal anesthesia in cases of degenerative myocarditis would seem dangerous as there might be a dilatation of the heart concomitant with a possible drop in blood pressure during the period of anesthesia which might bring about a fatal termination.

Heretofore the cases for spinal anesthesia have usually been selected cases, especially among patients in the sixth and seventh decades of life. I venture to say that spinal anesthesia in this group is far superior to general anesthesia, especially when there is far advanced circulatory degeneration. In these cases the resiliency of the arteries and veins is lost and consequently there is not such a loss of the volume of blood to the heart due to a relaxation and paralysis of the voluntary muscles as happens in patients in the lower age groups.

Although the "sanctum sanctorum" in the field of anesthesia yet seems to be the spinal route, I feel that spinal anesthesia is the anesthesia of choice in a vast majority of those cases requiring surgery below the diaphragm.

Hinton Hospital

AORTIC STENOSIS

By A. C. WOOFTER, M. D.
Parkersburg, W. Va.

UNCOMPLICATED aortic stenosis as a sequel to rheumatic fever is unusual even in geographic areas where the rheumatic state is common, although it is occasionally seen concomitantly with mitral stenosis which is by far the most frequent valvular defect.

The aortic valve is sclerosed and often funnel shaped with adherence to the cusps frequently reducing the opening to a very small aperture so that it is with great difficulty that the enlarged left ventricle forces the blood into the aorta. It is easily seen that such a defect is prone to cause a variable degree of insufficiency of the valve, which may change the clinical findings by the addition of a diastolic murmur over the aortic area, or alter the pulse pressure which one would expect to find. Until very late there is more often no actual dilatation of the left ventricle though the hypertrophy is great during the period of compensation.

The characteristic and most outstanding finding, on physical examination, of a harsh systolic murmur over the second costal cartilage on the right side, transmitted to the carotid vessels and to a lesser degree over the precordium is not diagnostic, but is pathognomonic of aortic stenosis. A thrill is usually plainly felt where the murmur is best heard and best transmitted. Any displacement of the apex beat or shift of the left border of cardiac dullness indicates moderate to large myocardial compensation due to the subacute or chronic pathological lesions, and in the later stages a dilatation of the left ventricle.

A transient mild pitting edema of the ankles is usually present.

The murmur is not heard over the abdominal aorta and there is no "pistol shot" sound as is sometimes the case in aortitis with aortic regurgitation.

Blood pressure findings are variable and therefore cannot be depended upon to clinch the diagnosis. The unpredictable amount of regurgitation of an inefficient valve is a large factor in determining the difference in levels

of the systolic and diastolic readings, so that a high systolic level is often found. However, a low pulse pressure should bring to mind a stenosis of the aortic valve.

Significant in all aortic systolic murmurs should be a history of any of the manifestations of rheumatic fever, including a reference to chorea or to "growing pains" (arthralgia) as a child. However, it is well known that in any type of cardiac involvement no clinical joint disease or nervous system sequelae may have been present. Usually there has been for one or more years a shortness of breath on climbing stairs, "smothering spells," occasional dizziness or headache, transient edema of the ankles not necessitating removal of the shoes, and sometimes mild cyanosis.

A negative serology repeated at least once eliminates the presence of cardiovascular syphilis, unless there is a history of previous intramuscular or intravenous injection of antiluetics.

X-ray for diagnosis purposes is decidedly valuable when and if the typical shadow supplementing the clinical picture is that of a large sloping left ventricle, moderate size of the other portions of the heart and no widening of the aortic arch or hint of aneurysm.

Prognosis depends upon an estimation of the cardiac reserve measured by the electrocardiogram, symptomatology, compensation or decompensation, size of the heart, frequency or severity of the pitting edema, degree of cyanosis, and, if present, any pulmonary congestion. Death is often due to intercurrent infection, such as pneumonia, contagious diseases, acute or subacute bacterial endocarditis before the onset of congestive failure. Cases of aortic stenosis uncomplicated by a damaging regurgitation, other valve lesions, or severe myocarditis may have a long uneventful life.

Case Report: This patient was first seen in April, 1936, with a chief complaint of shortness of breath.

Present Illness: With an abrupt onset, during the year 1930, the patient noticed a smothering and choking sensation, accompanied by dizziness, a mild tinnitus, and knife-like precordial pain, never extending into the neck or down either arm, and lasting about two hours. During the first and subsequent attacks the head and shoulders were necessarily elevated on pillows to facilitate respiration (symptoms probably exaggerated by cardiac neurosis.)

The illness has become progressively worse until the present time, though cyanosis has been evident only once about a year ago.

For the last six months a transient moderate edema of the ankles has been present.

Occasionally the patient is free from any symptoms, except dyspnea on exertion for three or four days, but with worry or exercise the syndrome recurs.

There are occasional attacks of "indigestion," but these seem to be confused with the precordial pain.

Menses began at fourteen and have been of the 28 day four day type, with mild headache before and after.

Upper respiratory infections are infrequent. No hemoptysis.

Glasses are worn for correction of myopia and astigmatism. Occasionally there are spots before the eyes, unrelated to the present illness.

Past History: Measles at the age of ten, mumps at twelve, and chicken pox at an unknown age.

There have been occasional attacks of tonsillitis in the winter time since the age of six, but no severe attacks since childhood.

Between the ages of two and fifteen there were recurrent yearly affections of chorea, lasting on the average of two months.

At fifteen employment in a factory was obtained where she stood on a cement floor and subsequently had rheumatic pains in the feet, ankles, and knees, though the joints were not red or swollen and the pains not transitory.

Family History: Parents living and well. Married ten years, husband living and well.

Two living normal children. No miscarriages or stillbirths.

Physical Examination: Physical examination reveals a well nourished adult female approximately 32 years of age, weighing 153 pounds, with skin of normal color and texture, without cyanosis.

Head: Contour normal, without areas of softening or exostosis. Hair, brown in color and of normal texture. Eyes, glasses are worn constantly. Pupils react to light and in accommodation.

Nose: No ulceration or deviation of the septum, narrowing of orifices, or sinus discharge.

Mouth: Normal; no dental carries, abnormalities of the tongue or mucosa. Tonsils present, but small and not infected.

Neck: No retraction, deviation, lymphadenopathy, venous pulsation or tracheal tug. A well-defined thrill and murmur extend upward over both carotid arteries.

Chest: Lung fields clear to inspection, palpation, percussion, and auscultation.

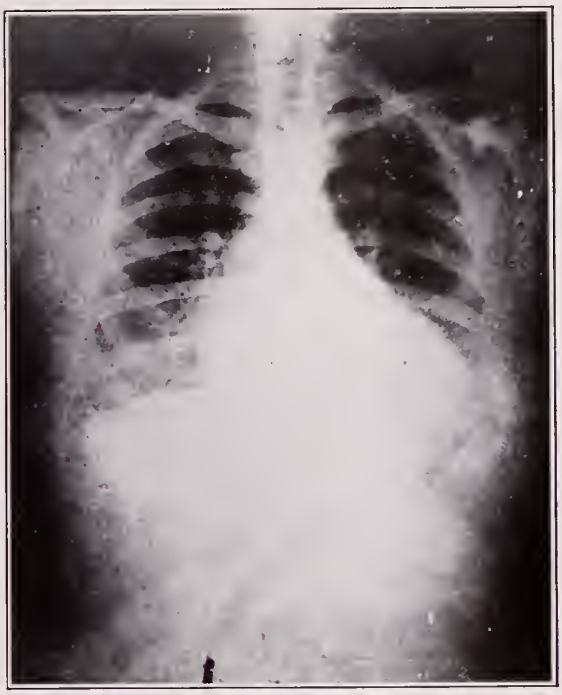
Heart: A harsh blowing systolic murmur is heard over the aortic area at the second costal cartilage to the right of the sternum, and is transmitted to a lesser degree to all areas as well as over both cartoid arteries. A strong thrill is found over the aortic area, transmitted only to the carotids. The left border of cardiac dullness is ten and one-half centimeters to the left of the midsternal line. Percussion over the aorta does not elicit widening of the arch.

Blood Pressure: Right arm 176/76. Left arm 174/76.

Abdomen: Panniculus moderately thick, rising above the level of the thorax. The lower border of the right lobe of the liver was palpated three finger-breadths below the costal margin at the junction of the ninth and tenth costal cartilages. No fluid line or edema of the panniculus was found. Spleen was not palpable. No tenderness or muscle spasm. No costovertebral angle tenderness.

Extremities: Symmetrical, without scars or deformities. Biceps, triceps, knee, and ankle jerks present, equal, and active. Deep tendon pain present, and Babinski's sign negative. There is slight pitting edema of both ankles. No pigmentation.

Laboratory Findings: Serology — Wassermann negative; Kahn negative. Urine—Sp. gr. 1023. Sugar and albumin negative. Cytology unimportant.



AORTIC STENOSIS

Summary: A clinical diagnosis of aortic stenosis is established by confirmation of the following findings:

1. History of the more or less mild prodrome of cardiac failure.
2. History of a rheumatic affliction (rheumatism or chorea).
3. Harsh systolic murmur over the aortic area, well transmitted over the precordium and the carotid arteries, and accompanied by thrill.
4. Negative blood Wassermann and Kahn.
5. X-ray and/or electrocardiogram.

BIBLIOGRAPHY

Pathology of Internal Dis., Boyd., Lea & Feb. p. 56.
Textbook of Med., Cecil, Saunders, p. 1091.
Princ. and Practice of Med., Osler. Appleton, p. 814.
Physical Diagnosis, Major. Saunders, p. 239.
Aortic Stenosis with Spec. Reference to Angina Pec. and Syncope. Contratto & Levine, Annals Int. M., 1937, Vol. X, pp. 1636-1653.

THE TREATMENT OF FRACTURES BY THE OPERATIVE METHOD*

By J. HUBER WAGNER, M. D., F. A. C. S.
Pittsburgh, Pa.

THERE was, and perhaps still exists, in many minds today the thought that the operative treatment or open method for reduction of a fracture is to be used as a last resort. This belief, I think, is gradually disappearing, for if one observes the literature he sees more and more reports of this method. The current journals are publishing the results of those surgeons who today are using this method of procedure and who yesterday decried the use of open method with internal fixation as dangerous and unnecessary. Again one has but to look at the modern text-book to see the prominence given to this form of treatment. Not that I wish to be dogmatic or to impress you that the open method should be used as the method of choice in the reduction of all, or even the majority of fractures, but rather that I feel it is a necessary one at times if the surgeon who undertakes the care of a fracture is to give his patient the benefit of the best and this in the light of our present day knowledge. Perhaps at this time it might be well to ask ourselves why this method is so decried in certain sections of the country. We have but to look back to a short time ago following the introduction of ether anesthesia by Morton and Long, ninety years ago when modern surgery began and then with the introduction of antisepsis and asepsis following the discoveries of Pasteur and Lister, we see this rapid advancement by the classical work of the Germans we recall the development of abdominal surgery. Even with the knowledge of that day, infection was present in many cases. With the body able to take care of infection in soft tissues the wounds healed with scar formation, but where infection is encountered in bone we know of the prolonged convalescence and the disastrous results. Hence the treatment of fractures was relegated to that of a secondary character, as the surgeon of that day gave his thoughts to abdominal surgery.

With the beginning of the 20th century and the development of the mechanical age and speed, the number of fractures increased markedly. Because of the many poor results from the treatment of these, the challenge was accepted by a few outstanding surgeons and the development of the treatment of fractures on a sound basis was again instituted. With the work of Lambotte, Lane and Jones in Europe, Stimson, Scudder, Cotton and others in America, the technique of the treatment of fractures underwent a radical change. One has but to refer to the text-book of that time to realize that the technique was essentially, giving the patient an anesthetic, reducing the fracture as well as possible by manipulation and traction and the application of a circular cast, with the hope that the patient would not die from pneumonia and union of the fracture would take place, regardless of the position.

By the discovery and development of the x-ray by Roentgen in 1895 and 96, and the ready acceptance and use of it by the medical profession, the taking of films which readily showed the poor results of the so-called reductions and the resultant litigation often following, led to this development being more or less forced on the physician. I am sure that many of you here can look back and recall the many poor results resulting from what today was called simple fractures.

In America in 1909 after Lane presented his classical paper on the open reduction of

*Read before the West Virginia State Medical Associaion at Clarksburg, W. Va., May 24, 1937.

fractures and fixation by the use of plates and screws, the work was taken up casually by the general surgeon only to be dropped in a short time, because of the poor results obtained, *i. e.*, numerous infections, breaking of plates, etc. However, this was, of course, due mostly to the fact that they did not follow the technique or the principles as laid down by Lane, that is, the non-hand contact technique.

About this time industry was beginning to realize the cost it was paying, not only because of the many injuries sustained, but because of the poor results following the treatment of the same. The field of industrial surgery was just in its inception and my chief and associate, Dr. Wm. O'Neill Sherman on hearing the presentation, realizing the logic of it attempted this method of treatment and from the excellent results secured by it when contrasted with the results secured prior to it, he resolved it worth while and began speaking of its merits. I believe it is only fair to say that mostly in America, to him has the battle for the open method of reduction of fractures of the femur been waged with asepsis as the ideal. In 1910 he presented a paper reporting the open method of operation having been performed in 75 cases, 14 of which were in fractures of the femur in which three plates had broken. With this stimulus he secured the help of engineers and from their combined studies and research, has evolved the vanadium steel plate and screws which are molded on sound principles, the plate after the principles of an eye beam, and the screw a combination of a machine tap and screw.

Surgeons as a rule are slow to adopt new ideas, hence these screws and plates were not readily taken up or tried. However, with the onset of the war, the interest in the treatment of fractures was again stimulated. At this time, Trees in his surgical anatomy published in 1913 makes the statement that "in fractures of the weight-bearing bones, recovery without shortening was the exception." Today, I believe it is only fair to say that in the better clinics in America the reverse of this is true.

May I discourse a bit on some statistics? In the British Army prior to 1917, one in every sixty injuries sustained, included a fracture of the femur. In fact, there were 5,000 of these in the first nine months of the war, in the British Army. Before the use of the Thomas splint there was an 80 per cent mortality in these cases with 65 per cent of those that reached the Casualty Clearing Station dying. After the introduction of the Thomas splint in 1917 with the improvement in transportation and treatment, the mortality dropped to 15.6 per cent. In 1918 after the specialization hospitals for treatment of fractures were established, this mortality fell to five per cent with amputation to three per cent. Hence, one can readily see the changes that were taking place in the treatment of fractures since the introduction of the x-ray and how far we think we are advanced today. The question arises, has the profession at large evoluted with these changes?

More recently, Scudder, Cotton, Walker, Blake, Eliason, Speed, Sherman and others, through the American College of Surgeons Fracture Committee, have attempted standardization of treatment for certain kinds of fractures. I believe that this committee is gradually seeing the wisdom of the use of open reduction and internal fixation when indicated, whereas at the time of its origin in 1923, it was strongly opposed. The phrase that "every case of fracture is a law unto itself," is, in a sense true, but I feel it permits to some too much latitude, and is often misconstrued. There are certain standards that must be followed if we are to improve. The failure to follow standard must be due either to ignorance or to neglect, and neither of the above causes excuses anyone.

The goal that we seek in the treatment of fractures is the return of maximum function of the part in the shortest possible time, without jeopardizing the patient's health or life. The best function naturally follows the best anatomical reposition of the parts. In our experience, we feel that all fractures come within one of three classes.

The first group, those that can be treated by closed methods, includes certain fractures of the humerus, either shaft or neck; certain fractures of the elbow; single fractures of the forearm; Colles' fractures; Pott's fractures and certain comminuted fractures of the tibia and femur can be treated by traction, counter-traction and manipulation.

The second group, those that experience has taught us can best be treated by open reduction and fixation, includes those cases of fracture of the long bones, especially the weight-bearing bones—tibia and femur, and both bones of the forearm. Here where there is definite shortening in a transverse or oblique fracture we know from past experience that the majority of methods of traction, manipulation, etc., will not give us the proper approximation. We also know that by operating through the fascial planes with proper technique an end to end approximation can be made. With proper fixation, by the application of a bone plate, transfixation screw, or notching, we get a ready union and reestablishment of the normal physiology of the soft parts in a minimum time.

Also included in this classification, can be those cases of the so-called plateau fracture of the tibia and fractures of the condyles of the femur and humerus. In these cases the more normal the restoration of the joint surface, the better the functional result. Experience teaches this can be secured best by open reduction.

The third group includes those fractures of the above two types in which there is an honest question whether the open or closed method will secure the better results. In the hands of experienced bone surgeons, many of these cases should be operated upon early with normal anatomical restitution of the parts, whereas on the other hand, if the man is treating fractures and does not have the operative technique, team work and certain armamentarium, he should by no means attempt operative procedures and should get the best results that he can by the conservative methods.

Our method of treatment of fractures is:

Taken for granted a fracture case comes into the hospital and after diagnosis by physical examination and verification by x-ray, we decide he should be treated by open operation, our procedure is as follows:

First, an attempted reduction and primary fixation of the fracture is carried out by the use of a Thomas arm or leg splint, or a Cabot splint with adhesive plaster traction. In case of a humerus or femur, the traction is applied by a Spanish windlass. In case of a leg where the Cabot splint is used, the lower fragment is fixed to the splint and traction made through the splint proper. The patient is kept in this position for a period of ten days, at which time our experience has led us to believe that the time is opportune for open reduction. During this rest period the patient has recovered from the shock, the process of repair has begun with a resultant subsidence of the swelling, coffer-damming of the tissues and a maximum of local tissue resistance effected. Of course, the anesthetic is one of choice. In the lower extremities we prefer spinal or pentothal anesthesia; ethylene, ether, evipal or pentothal for the upper extremities. Prior to the operation, no preparation is made, such as local applications, cleansing, etc. A simple dry shave of the operative area is carried out and a sterile dressing applied. After complete anesthesia, the part is prepared by the simple application of ether, alcohol and ether to remove grease and debris, and then the application of a five per cent alcoholic solution of picric acid. An incision, preferably to permit muscle splitting is made and the skin undermined a distance of approximately one-eighth to one-fourth of an inch. Thorough hemostasis is made by ligating of the bleeding points with catgut. After this is carried out the parts are thoroughly blocked by the use of linens clamped to the edge of the skin incision by various methods, preferably Michele clips or Moynihan clamps. All instruments used up to this time are then discarded and clean instruments obtained. During the above pro-

cedure nothing touches the skin save the instruments, but as a precaution the hands are washed in Dakin's solution, followed by rinsing in sterile water. With the clean instruments, an incision is made through the muscle planes or directly through an area void of the larger arteries, with care being taken to avoid any nerve structure, and the fracture exposed. After thorough hemostasis the fractured ends are caught in an appropriate clamp, the ends thoroughly curetted and as near a perfect end to end anastamosis with as normal alignment as possible secured. With the proper clamps, preferably a Lambotte, the bones are held in apposition and an appropriate bone plate applied with proper fixation of the upper and lower fragments by at least two or preferably three screws. At this point I may say, in case of an oblique fracture, often a single transfixation screw will suffice to hold. During these procedures one should be careful to disturb the soft parts absolutely as little as possible, applying the principle of doing enough and no more. Here we again make sure of hemostasis by ligating any bleeding vessels and suture the wound with interrupted double catgut No. 1 in the muscles and a continuous interlocking suture of catgut in the deep fascia. The towel clips are removed and the skin sutured either by the use of Michele clips or black silk. As indicated, lateral plaster splints are applied which gives a certain amount of external support and will permit the muscles of the part to be moved at an earlier date. Incidentally, I recall the statement, "a little motion at the site of fracture is a good thing" was the dictum of one of my teachers when a student. I disagree one hundred per cent, for I feel that a little motion is the cause of many cases of non-union.

The sutures are removed on the fifth or seventh day and after a rest of another week, the patient is encouraged to exercise the muscles of the part in an active manner. After three or four weeks, active and passive motion of the adjacent joints is instituted. In 95 per cent of simple cases, plates remain in situ; in compound fractures, 95% are removed later.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

Modern methods of precision have vastly increased diagnostic accuracy. It has been estimated that upwards of one-fourth the cases admitted to sanatoria a generation ago may not have been suffering from tuberculosis. The classical signs of the disease occur also in other pulmonary infections, and observation of pathological evidence at autopsy has led to increased caution in diagnosis as the frequency of these lesions is more clearly recognized.

Differential Diagnosis in Pulmonary Disease: Cough, sputum, hemoptysis, dyspnea, together with slight or marked constitutional manifestations, indicate abnormality of the respiratory tract. First and foremost suspicion points toward pulmonary tuberculosis. This should always be so but it in no wise removes the need for careful differential diagnosis. Among the chief alternative possibilities are bronchiectasis, pulmonary abscess, pulmonary fibrosis, neoplasms, mycotic disease, spirochetosis, occupational diseases (silicosis, asbestosis, anthracosis) and pulmonary syphilis.

Four factors play a leading part in increasing the accuracy of present diagnostic procedure. They are as follows:

1. A far better appreciation and interpretation of x-ray findings, dependent upon (a) vastly improved technique in the taking of films; (b) the result of experience in reading films, together with the information given at the necropsy table.

2. Bronchoscopy, which yields wonderful results in skilled hands.

3. Lipiodol injections, which map out lung areas hitherto a trackless wilderness to the clinician.

4. More exact methods of sputum examination and culture, resulting in the recognition of formerly unsuspected sources of chronic pulmonary infection.

The existence of these modern aids in no wise lessens the importance of a carefully taken history of the case. In the great majority of instances this in itself will enable the skilled observer to reach a tentative diagnosis which turns out to be correct. It must not be confused with the erroneous procedure of making a "snap diagnosis," but is based on a thorough knowledge of the causes of pulmonary disease and their different manner of development.

Two categorical principles may be laid down which if adhered to will render faulty diagnosis rare. The first is that râles in the lower lobes may be considered non-tuberculous until proved otherwise, while physical signs in the apices suggest overwhelmingly a tuberculous origin. The second is that if a patient has a moderate or considerable amount of thick, yellow, yellowish-green or green sputum found to be negative for tubercle bacilli on *repeated* examination, the probabilities are all against the presence of tuberculosis. Such axioms are of course diagnostic aids, not dogma.

In differentiating bronchiectasis the difficulty does not lie with the established cases,—those with 250 to 500 c.c. of sputum in twenty-four hours which separates into the typical three layers, the absence of tubercle bacilli, the basal physical signs, the relatively slight constitutional manifestations, the x-ray findings, particularly when reinforced by lipiodol injections. It is the earlier or milder cases which cause confusion when cough and sputum are not predominant, when physical signs are scant or absent and when no characteristic finger clubbing exists. It must of course be remembered that the two conditions may coexist. When this occurs discovery of tuberculosis is usually not difficult. For example, in the rare cases where bronchiectasis is found in the upper lobes it is usually associated with tuberculosis. Given, therefore, a condition of long standing with chronic cough and sputum, the latter negative for tubercle bacilli, with relatively few constitutional symptoms, the verdict should be bronchiectasis rather than tuberculosis.

Too many cases of lung abscess are erroneously diagnosed as tuberculosis. The differentiation should not be difficult and here the history is of special value. Sixty-six per cent of lung abscesses develop after either surgical procedures or pneumonia. The onset is usually very acute and the patient is exceedingly ill.

The physical signs of pulmonary abscess are wholly without characterization. The x-ray picture is also protean. Diagnosis is essentially based on previous history, acuteness of onset, signs and x-ray evidences, wherever they may be, a constant leukocytosis and, finally, the liberation of a varying amount of foul-smelling pus when the abscess ruptures into a bronchus.

Acute pulmonary fibrosis (in distinction from chronic, such as silicosis, etc.) has attracted recent attention, four cases having been reported recently from Johns Hopkins Hospital, all fatal. X-ray findings resemble those of tuberculosis though they are usually more generalized throughout the lung. There is progressive fibrosis with profuse exudation as well, dyspnea and cardio-respiratory failure. There is reason to believe that this condition may be of more frequent occurrence than has been recognized and it is well to bear it in mind.

Primary pulmonary carcinoma is practically always bronchogenic. When we come to deal with metastatic pulmonary malignancy, the diagnosis rests upon respiratory symptoms superimposed upon a known cancerous base.

The main symptoms of pulmonary malignancy are pain, dyspnea, x-ray findings of an heterogeneous nature with rapid spread, added to which there is the constantly increasing cachexia characteristic of malignant disease wherever situated. Most characteristic is a dyspnea out of all proportion to the anatomical damage as revealed by physical examination or x-ray. Again, the often voluminous sputum is relatively benign in appearance, and, of course, persistently negative for tubercle bacilli. Physical signs are practically of no diagnostic value. All obscure cases, particularly those with lesions of the lower lobes, with more or less indefinite symptoms and negative sputum, should be bronchoscoped and lipiodol films made *before* subjecting the patient to a long and tedious period of observation.

In conclusion it is well to keep in mind the following thirteen special points in the differential diagnosis of pulmonary tuberculosis. Dogmatism in medical diagnosis is risky but it seems safe to emphasize these basic requirements.

1. Pulmonary tuberculosis must constantly be kept in the foreground.

2. Good stereoscopic x-ray films are essential in diagnosis.

3. Failure to examine sputum is equal to malpractice.

4. Failure to find tubercle bacilli after repeated attempts is a great argument against the presence of tuberculosis.

5. In *all* children under twelve and in *all uncertain* adult cases an intradermal tuberculin test should be done. Lots of adults will react negatively and that throws out tuberculosis.

6. A carefully taken history is of great importance. It need not be long. Quality is away above quantity. Do not leave this to an assistant. Do it yourself.

7. Resort promptly to bronchoscopy and lung mapping in all doubtful cases that are really ill.

8. Remember that persistent absence of tubercle bacilli from sputum merely *excludes tuberculosis.* The patient is not a bit better than before. Continue to search the sputum for some definite cause of infection.

9. The ravages of bronchiectasis are almost never like those of tuberculosis unless they co-exist and then tuberculosis is the primary disease to be treated.

10. Hemoptysis is not pathognomonic of tuberculosis.

11. An extremely acute postoperative pulmonary symptomatology should direct the diagnostic finger toward abscess.

12. Fibrotic conditions arise in the presence of chronic sinusitis and other chronic infections elsewhere in the body. There may be acute fibrotic pulmonary conditions. Think of them.

13. Pulmonary malignancy is on the increase. In the primary type bronchoscopy is invaluable diagnostically. In the metastatic type the diagnosis is of scientific interest only.

Differential Diagnosis in Pulmonary Diseases, Paul H. Ringer, A. B., M.D., F.A.C.P., New York State Journal of Medicine, June 1, 1937.

TWENTY-FIVE YEARS AGO

(Excerpts from the September, 1912 Journal)

THE DOCTOR'S DECALOG

1. Don't waste your time. Be doing something every minute.

2. Strive to make a good impression. Dress well. Learn to talk well. Be a man among men.

3. Be a courteous professional gentleman, but also a square-deal-giving and a square-deal-demanding business man.

4. Buy books. Subscribe for the journals, and write for them. Attend the societies, and let your voice be heard.

5. Equip yourself with every material thing that will increase your diagnostic and therapeutic power.

6. Don't be ashamed to consult with other men. Give them of your knowledge, and extract from them every fact of possible value to you.

7. Be a real and not a pseudo investigator. Take nothing on faith, but refuse nothing because it is condemned.

8. Make every case a subject for real research work, and leave no fact concerning it unknown that is capable of being uncovered.

9. Shun quackery as you would poison; but ascertain its sources of strentgh, adding the latter to your store.

10. Wear no man's collar. Let truth, honor and manhood be your only masters.

* * * *

Original articles in the September *Journal,* 1912, were written by Dr. Frank LeMoyne Hupp, Wheeling; J. W. Lyons, Huntington; Dr. W. P. Megrail, Wheeling, and Dr. N. R. Price, Marlinton.

* * * *

COUNTY SOCIETY PROCEEDINGS

CABELL SOCIETY

On the 8th of August we held a meeting in the Hotel Frederick. This was the first meeting since June.

Dr. Edwin S. Miller of Philadelphia read a paper on "The Bacterins and Sera." The paper was certainly a very instructive one as well as interesting.

After the meeting lunch was served in the cafe.

Fraternally yours,

J. R. BLOSS, *Sec'y.*

MERCER SOCIETY

Editor W. Va. Journal:

A meeting of the Mercer County Medical Society was held in Princeton, August 20th. Dr. H. R. Fairfax, president, being absent, Dr. W. H. St. Clair, vice president, occupied the chair.

Dr. O. S. Hare read a very interesting report of an obstetrical case which was of unusual interest and occasioned many other members to recite interesting cases occurring in their practice Then Dr. C. A. Johnston read an interesting paper, "The Relation of Skin Specialist to General Practitioner," which stimulated much interest and occasioned considerable argument.

After business session was over the society was given a delicious luncheon at Hotel Perkins by the Princeton doctors.

This meeting was the most intersting and successful one we have had for many months.

September 14th is the date for our next meeting which will be held at Mercer Healing Springs, Athens, W. Va.

W. C. SLUSHER, *Sec'y.*

PRESIDENT'S PAGE

The public schools of West Virginia will reopen within the next week or ten days. Hence we feel that this is a most opportune time to call to your attention our new law requiring compulsory vaccination and diphtheria immunization as a prerequisite for school enrollment. This work must be done. The question is, who is going to do it. Will this work be done by the doctors in private practice or by the various units of our state health department?

The answer to this question lies with the doctors themselves. If our county medical societies will shoulder this responsibility, bring about an immunization schedule for all members to follow, establish a reasonable fee and properly publicize their plans, we venture the opinion that 80 per cent of the work will be done by private practitioners. If, on the other hand, our component groups stand by and do nothing we will find most of the immunizations handled by free clinics.

It was our good fortune recently to attend a meeting of the Central West Virginia Medical Society at Webster Springs at which this matter was thoroughly discussed. At this meeting it was suggested that the members set aside a certain hour each day and certain days each week during which pre-school children would be vaccinated and immunized for a modest fee. Those unable to pay this modest fee would be given free immunization. It was further suggested that "follow-up" clinics be held at a later date by the health officials, such clinics to be designated as "charity" or "poor" clinics.

We favor this proposed plan of the Central West Virginia Society. We believe that the use of such words as "charity" in connection with immunization clinics carries just enough stigma to filter those who can from those who cannot afford to pay. We believe the parents of non-immunized pre-school children will react most favorably to the idea of a fixed fee and a fixed time schedule for immunizations in the offices of their family doctors. And we feel sure that the county health officers throughout the state will cooperate most heartily with this or any other reasonable immunization plan.

President.

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THE TRUTH WILL OUT

The theatre of socialistic medicine has thrown open its doors, the curtain is up, the prologue is finished and in the center of the stage we find the distinguished Senatorial protagonist, J. "Ham" Lewis. He spoke his first lines in his tryout before the House of Delegates of the American Medical Association at Atlantic City. Now he has graduated to the big time circuit, the spotlight of the United States Senate playing and dancing upon his emblematic whiskers.

It was at Atlantic City that Senator J. Hamilton Lewis sought the advice of the medical profession and warned the doctors that he understood that a governmental attempt would soon be made to make every physician and surgeon in our great free country a civil officer of the national government. No one could have known better than Senator Lewis what was coming. For on July 28, 1937, Senator Lewis himself introduced Senate Joint Resolution 188 "to establish all licensed medical practitioners as civil officers of National Government." The man is practically clairvoyant.

Senate Joint Resolution 188 is published in its entirety in this issue of the JOURNAL. We urge every Association member to read the resolution and to digest, if possible, its contents. We particularly call your attention to the provision which reads in part:

> "Any such physician or surgeon shall render such medical or surgical aid requested of him by any impoverished individual who is in need of such aid * * * Any physician, surgeon or hospital rendering aid to impoverished individuals * * * are authorized to make such charges for such aid as are reasonable and just. Bills for such charges shall be submitted to the Social Security Board, which is authorized and directed to pay them, under such rules and regulations as it may prescribe."

We cannot help but admire the idealistic simplicity of Senator Lewis' solution of the problem of providing medical care for the indigent. No doubt he conjured up this solution from his vast experience as attorney and politician. It must not be forgotten that he was ill while visiting Russia. His solution is straight and to the point. It has but one drawback. It won't work.

As a matter of fact, Senator Lewis' solution is just as simple and straightforward as a similar governmental proposition inaugurated a few years ago to harness the tides of Passamaquoddy; just as plain and outspoken as the Florida canal project. It is so simple, in fact, that the intricacies of its application might challenge even the mental capacity of General Jim Farley himself.

Let us assume that we are now operating under Senate Joint Resolution 188, and examine its simple intricacies. Nothing could be simpler than for Dr. A to send in his bill for giving the rag picker's daughter a shot of salvarsan; nothing more intricate than for the government to handle several hundred thousand similar claims each day. Nothing could be simpler for Dr. B than to pad a few extra visits on his April account; nothing more intricate than for government spies to find him out. Nothing could be more simple than to assume 100 per cent honesty in all patients and all physicians; nothing more intricate than to operate on such an assumption.

The medical profession of this country has enough to worry about without having the Lewis resolution saddled upon its back. If 90 per cent of all doctors and all patients would practice honestly and faithfully under

the Lewis plan, the remaining 10 per cent would still be more than sufficient to ruin the honor and reputation of the entire body. Neither the medical profession nor any other profession or group should be asked to face the loose temptation for graft and dishonesty embodied in the Lewis resolution.

If Senator Lewis' resolution is his gift to the American doctors, we apologize for looking a gift horse in the mouth. Having done so, we return his present with proper appreciation and beg the Senator to remember us with something a little less expensive and hardly so extravagant.

INSULIN IN DEMENTIA PRAECOX

The hypoglycemic therapy of psychosis was developed in the clinic of Dr. Manfred Sakel in Vienna. Much has been attempted in the treatment of schizophrenia with only meager results. This recent addition to the field of therapy in dementia praecox appears to offer promise of a definite advance in the treatment of this malignant mental disorder. Dr. Sakel's results have been substantiated by numerous investigators in other clinics and insulin shock therapy appears to have advanced somewhat beyond the purely experimental stage to assume a recognized place in the treatment of mental disease. However, it is not a method of treatment that can be utilized generally. Cases must be carefully selected by physicians trained and experienced in psychiatry. Only the paranoid types whose psychoses have existed less than two years appear to offer the best subjects for this treatment. It is said to be contraindicated in catatonia and hebephrenia. No treatment has yet been devised for the latter. Early deterioration characterizes the hebephrenic type of schizophrenia and no adequate method of counteracting it is known. The paranoid types present the least evidence of deterioration. However, the rationalization and projection of the paranoid praecox evidenced by his delusions have made him difficult to manage. Such persons do not adjust themselves to the social level. Insulin therapy may be found to be of great benefit in the care and treatment of such cases. As previously indicated hypoglycemic shocks should be administered only under well chosen conditions. The patient must be attended by a competent special nurse who has been forewarned as to the symptoms and signs to expect and the proper safeguards to observe. There must be ample facilities for quick and accurate laboratory work. The doses vary from day to day and for different patients. Good responses are seen in some patients early while in others improvement is slow. Some improve in three to five days. It is believed that sixty shocks should be regarded as the maximum number necessary. Shocks are induced daily with one rest day in seven. The physiologic responses to hypoglycemia are varied and must be understood by the physician in charge. Delayed shocks may come on during the night and must be recognized immediately. After the shock is terminated by the administration of glucose solution the patient feels well and is kept occupied by active physical exercise for the remainder of the day. A diet rich in carbohydrates is given. Hypoglycemic therapy is not without danger to life. There have been fatalities associated with it. However, it must not be regarded as a "kill or cure" procedure. It is hoped that by proper supervision and the maintenance of favorable conditions where insulin therapy is employed the mortality rate can be held to a minimum. Preparations are being made for the opening of an insulin therapy service at the Huntington State Hospital.

HOSPITAL MEETING

The next annual meeting of the Hospital Association of West Virginia will be held at Wheeling on October 7 and 8, 1937. One of the most important items that will come up for consideration will involve consideration of the proposed attempt on the part of the C. I. O. to unionize the non-professional hospital employees in West Virginia.

Hospital convention headquarters will be established in the Windsor Hotel. The convention will open on the afternoon of October 7 with two sectional meetings; one for nurses' superintendents at the North Wheeling Hospital and one on group hospitalization at the Ohio Valley General Hospital. All other meetings will be held at the Windsor Hotel.

Consideration of the C. I. O. contract will come up at a special business meeting on Thursday evening, October 7. A number of hospitals have already been approached with union contracts and it is understood that the policy of the Hospital Association toward these contracts will be determined at this meeting.

The general convention meetings will be held on October 8, both morning and afternoon. The convention will close with the annual banquet on the evening of October 8.

The West Virginia Examining Board for Nurses will meet in Wheeling on Saturday, October 9.

OPTOMETRY ON TRIAL

To the medical profession in general and the eye specialists in particular we recommend the article "Optometrists on Trial" which appeared in the August, 1937, issue of *Readers Digest*. It is a frank and courageous discussion of optometric activities in the United States, borne out by the actual findings of a private nation-wide investigation into this particular field of practice.

The investigation of optometry covered a period of ten months during which time, according to the *Readers Digest* article, six investigators bought 1500 pairs of glasses in all parts of the country. A typical case history is that of Bessie, a girl of 13 with as nearly perfect eyesight as it was possible to discover. Accompanied by adults, Bessie visited optometrists of all kinds from Boston to the Rockies. One optometrist said her eyesight was satisfactory. Among the others there was a difference of opinion as to whether she was far-sighted or near-sighted. Some said she had astigmatism; some said not. In one chair store the examiner, possessing but one simple optical instrument, used it less than a minute, made no notations and without the slightest hesitation prescribed lenses in an expensive frame.

The article's conclusion is that optometrists were more concerned with the sale of glasses than in determining the true condition of Bessie's excellent eyes.

Another interesting case history is that of a young man with normal vision who visited Optometrist A and was sold a pair of glasses. He took these to Optometrist B who said they were not correct and made up a second pair. He took the second pair to Optometrist C who roundly denounced them and sold him a third pair. These were taken to Optometrist D who put them aside and sold him another set. When the same thing occurred again, this investigator took the glasses of both A and B to four other optometrists and all four stated that neither pair was correct.

A survey of 2,800 establishments showed that 88 per cent charged no fee for examination but made their profit through the sale of glasses. A second article, dealing with the education of optometrists, will appear in the *Digest's* September issue.

CONTRACT PRACTICE DEFINED

Sifted from the reports of the meetings of the House of Delegates of the American Medical Association at Atlantic City, we call attention to the amendments to the Principles of Medical Ethics, which were adopted, changing the definition of "contract practice" to include agreements with political subdivisions as well as agreements between physicians and corporations, and further clarifying the definition of "free choice of physician."

We give below that section of the Principles of Medical Ethics which deals with contract practice, with the new matter in italics.

CONDITIONS OF MEDICAL PRACTICE

Sec. 2—It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

CONTRACT PRACTICE

Sec. 3—By the term "contract practice" as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization, *political subdivision* or individual, to furnish partial or full medical services to a group or class of individuals *on the basis of a fee schedule, or for a salary* or a fixed rate per capita.

Contract practice *per se* is not unethical. However, certain features or conditions, if present, make a contract unethical, among which are: 1. When there is solicitation of patients, directly or indirectly. 2. When there is underbidding to secure the contract. 3 When the compensation is inadequate to assure good medical service. 4. When there is interference with reasonable competition in a community. 5. When free choice of physician is prevented. 6. When the conditions of employment make it impossible to render adequate service to the patients. 7. When the contract because of any of its provisions or practical results is contrary to sound public policy. *The phrase "free choice of physician", as applied to contract practice, is defined to mean that degree of freedom in choosing a physician which can be exercised under usual conditions of employment between patient and physician when no third party has a valid interest or intervenes. The interjection of a third party who has a valid interest or who intervenes does not per se cause a contract to be unethical. A "valid interest" is one where, by law or necessity, a third party is legally responsible either for cost of care or for indemnity. "Intervention" is the voluntary assumption of partial or full financial responsibility for medical care. Intervention shall not proscribe endeavor by component or constituent medical societies to maintain high quality of service rendered by members serving under approved sickness service agreements between such societies and governmental boards or bureaus and approved by respective societies.*

Each contract should be considered on its own merits and in the light of surrounding conditions. Judgment should not be obscured by immediate temporary or local results. The decision as to the ethical or unethical nature must be based on the ultimate effect for good or ill on the people as a whole.

FLUSHED WITH SUCCESS

A man's ambition must be small
Who writes his name on a privy wall.

This age-old maxim has decorated the walls of public toilets probably since the first pool room was introduced on the American continent. It is still found, usually written on a bias on the left-hand wall, between some more creative poetic offering and perhaps the name of Elmer Shortridge, Lancaster, Pa., April 17, 1909. Ordinarily we would not say that this little two-line couplet contains sound advice. But there are exceptions.

The chief exception to come to our attention recently is our own State Health Department which, under instructions of Commissioner A. E. McClue, is preparing to place its name in every public toilet in West Virginia. And above the name of the State Health Department will be sensible and sound advice to the customers to go to their respective family physicians for treatment of gonorrhea and syphilis. The notices will warn of the dangers of neglected venereal diseases and will caution the readers to avoid self-medication and drug store treatment.

This is not only a very forward step, but it draws our admiration for beating the manufacturers of venereal medicines at their own game. Heretofore our public toilets have provided a happy hunting ground for ven-

ereal cure-alls of every description. We commend the State Health Department for invading this proven field. Our Health Department is certainly making the most of the toilet and privy situation in West Virginia. Hearts like our own still fill with state pride when we recall that West Virginia was the first of all states to dedicate its one hundred thousandth new deal privy.

OBITUARY

DR. HARRY F. NOLTE

The sudden and unexpected death of Doctor Harry F. Nolte of Wheeling, West Virginia, has saddened his many friends and admirers in the Medical Association. Dr. Nolte passed away while on a hunting trip in Canada on August 11, 1937.

He was born in the year 1896. Following the usual academic education he entered the College of Physicians and Surgeons, Baltimore, from which he was graduated in 1920. Following his entry into the general practice of medicine, Dr. Nolte became a member of his county medical society, the State Association and the American Medical Association.

The members of the Ohio County Medical Society passed the following resolution on the death of Dr. Nolte:

"It was with great sorrow that the many friends, professional and personal, of Dr. Harry F. Nolte learned of his sudden death on August 11, 1937.

"The medical profession has suffered a great loss, for Dr. Nolte was energetic, efficient, and conscientious in fulfilling his duties, and had many more years of service to offer, but for his death at such an early age.

"Dr. Nolte had a magnetic personality which endeared him to his co-workers and patients, and attracted a wide circle of friends.

"The members of the Ohio County Medical Society desire that this tribute of our regard and affection be inscribed upon its records and a copy be presented to his family with assurances of our sincere sympathy."

Committee:
DR. GEORGE ABERSOLD,
DR. E. N. PELL,
DR. J. A. MCCURDY.

COUNTY SOCIETY NEWS

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on the evening of August 12 with a good attendance. The speaker of the evening was Dr. J. F. Barker who gave an interesting paper on "Sulphamilamide Therapy in Urology." A case report was presented by Dr. Ivan Harwood.

CHAUNCEY B. WRIGHT, *Secretary*.

CENTRAL WEST VIRGINIA

The Central West Virginia Medical Society held its regular meeting at Webster Springs, August 7. The program consisted of the following: "Modern Treatment of Fracture of the Surgical Neck of Femur," J. O. Rankin, M. D., of Wheeling; "Problems of Interest to the Medical Profession of the State," W. S. Fulton, M. D., of Wheeling; miscellaneous talk by Charles W. Waddell, M. D., of Fairmont.

The following members were present: J. M. Cofer, L. O. Hill, S. P. Allen, J. B. Dodrill, E. H. Hunter, E. B. Ritchie, all of Webster County. Braxton County: E. L. Fisher, M. T. Morrisson, L. W. Frame. Those from Nicholas County were: E. S. Frame, Hugh Dunn, John Echols, J. N. Marquis, Henrietta Marquis, J. A. McClung, and G. D. Hill. Upshur County members were: Everett Walker, L. W. Deeds, B. L. Page, I. F. Hartman, and A. B. Bowyer. Also present was Mr. Joe W. Savage, secretary of the State Medical Society.

Compulsory immunization was discussed at some length, and a committee was appointed to draw up a resolution for the Central West Virginia Medical Society concerning its attitude of this program. The report of this committee follows:

The Central West Virginia Medical Society approves the Acts of the Legislature in requiring immunization of all children. It is true that many parents do not fully realize the importance of immunization for the reason that they are not familiar with the study, research and developments made by organized doctors who are devoting their lives, time and money for the control of contagious diseases among children.

The so-called compulsory Act of Legislature, requiring immunization and vaccination definitely applies to all children. The poor and indigent children are as much entitled to this service, and an opportunity for protection, as those whose parents are self-supporting and able to provide all the necessities of life—and many of the luxuries. The expense of taking care of the poor and indigent is a responsibility of the State and the effort of the State Health Department to supply this service is to be commended. However, the parents who are financially able to supply this service to their children should not permit themselves and their children to be pauperized and made a state charge, asking the public to defray the necessary expense of caring for their own child. It is an imposition on the state and a disgrace to the ideals heretofore practiced by our ancestors who have made West Virginia what it is—namely, an independent, self-supporting, liberty loving people.

It is, therefore, recommended that the State Health Department should insist upon the administering of toxoid for diphtheria and vaccine for smallpox to be rendered by the family physician, and paid for by all parents who are financially able to do so. It is further recommended that the physicians of the Central West Virginia Medical Society make a minimum charge of $1.00 for administering toxoid and vaccinating each child for smallpox.

If the parents prefer standing their child in line with the pauper child and receiving free service from the State of West Virginia, thereby taking from the child its individuality, pride, and ambition and repriving the family doctor of his just right, because of his relationship, to render this service—for the sake of saving a dollar—it is up to them—but we cannot understand how parents can again face the family doctor when they have taken from him the right to continue his relationship with their families and placed the burden for such service on charity—thereby, becoming a charge of the State and not individual self-supporting citizens.

This committee maintains that all children should be immunized, but feels that the State Health Department has no right under the guise of relief, charity, or necessity, under the present law, to apply funds on the care of those who are financially able to do so themselves.

This action is the concensus of opinion of the committee appointed by the Central West Virginia Medical Society and it is urgently hoped that the members of this society and the medical profession at large will do everything in their power to cooperate in this program; and it is further requested that the State Health Commissioner carefully consider the suggestions herein set forth, and that he advise the committee of the Central West Virginia Medical Society his reaction to same; and it is further recommended by this committee that the members of the Central West Virginia Society urge their patients to be immunized as private patients without the aid of the State Health Department; and that the State Health Commissioner be requested to advise all city, county, and district health officers to cooperate with the Central West Virginia Medical Society in this program.

Signed,
M. T. MORRISON, M. D.,
JAMES MCCLUNG, M. D.,
A. B. BOWYER, M. D.,
S. P. ALLEN, M. D.

G-H-H-M SOCIETY

The Grant, Hardy, Hampshire, Mineral County Medical Society voted at its last regular meeting on July 22, to change the name of their four county organization to "The Potomac Valley Medical Society." A petition for a charter bearing the new name of the society has been made. In addition to the four counties named in the old designation, the new Potomac Valley Society also has members in Pendleton county.

The society reports a good attendance at the postgraduate conferences held at Keyser.

E. A. COURRIER, *Secretary*.

LEWIS COUNTY

A new hospital insurance plan known as Central West Virginia Hospital Service was organized on July 27, by six Weston physicians and operation has already started. Benefits include 42 days maximum hospitalization per year, general nursing and use of all hospital equipment such as x-ray, anesthesia, laboratory service and operating room. Medical and surgical service is not provided.

The incorporators of the new plan are Dr. H. M. Andrews, Dr. E. A. Trinkle, Dr. E. T. W. Hall, Dr. A. F. Lawson, Dr. T. O. Snaith and Dr. Ralph M. Fisher, all of Weston.

THERESA SNAITH, *Secretary*.

MONONGALIA COUNTY

Dr. Rex A. Burdette, Monongalia County Health Commissioner, was the speaker at the meeting of the Monongalia County Medical Society, August 3, which was held at the Hotel Morgan, Morgantown. His subject was "Lower or Basal Lobe Tuberculosis," which brought forth a liberal and interesting discussion.

The meeting was preceded by a dinner at six o'clock p. m., in the hotel Marine room.

RALPH MAXWELL, *Secretary*.

GENERAL NEWS

STATE EXAMINING BOARD

The next meeting of the Public Health Council of West Virginia will be held at the Daniel Boone Hotel, Charleston, on November 8, 9 and 10, 1937. The chief purpose of the meeting will be to examine candidates for medical licensure in West Virginia. Applicants for reciprocity will appear on the second day of the meeting, November 9.

A number of important matters relating to public health and public health regulations will be considered by the Council at the November meeting.

MILITARY SURGEONS MEET

The forty-fifth annual convention of the Association of Military Surgeons of the United States will be held at the Ambassador Hotel, Los Angeles, on October 15, 16 and 17, 1937. Among many interesting topics scheduled for discussion will be "Fleet Medicine," by Captain George A. Cottle of the U. S. Navy, "Physiotherapy in the Next War" by Captain Leroy Lowman of the Army; "Submarine Medicine" by Lieutenant A. R. Behnke, Navy; "Emergency Plastic Surgery," by Lieutenant Commander Howard L. Updegraff, Navy Reserve and "Anesthesia in Shock" by Lieutenant Albert Wineland of the Navy Reserve.

FISHBEIN ON SYPHILIS

Syphilis. The Next Great Plague to Go. Author, Morris Fishbein, M. D., Editor of the American Medical Association Journal. Illustrated with charts and photographs. Published by David McKay Company, Philadelphia. $1.00. Seventy pages.

"Syphilis" by Dr. Fishbein is the perfect book on the subject for the layman. It is timely, calm, and definite. The layman's questions on the subject are anticipated and answered clearly and factually. The gauntlet of syphilis is run without benefit of technical language and prevention and cure are presented to the reader in no uncertain terms. Dr. Fishbein has chalked up a worthy victory in this encounter with the foe.

PHYSICAL MEDICINE ACADEMY

The Fifteenth Annual Meeting of the Academy of Physical Medicine will be held at the Hotel Walton, Philadelphia, October 19, 20, 21, 1937.

The Academy, which is international in scope, will present a scientific program based on reports of the most recent research and practice of the various specialties. In addition to the lectures, demonstration clinics will be held at the hospitals of the University of Pennsylvania, Jefferson Medical College, and Temple University.

A copy of the program may be had by addressing William D. McFee, M. D., 41 Bay State Road, Boston, Mass.

THE VOICE OF MEDICINE

Once more, during the coming fall, winter and spring, the voice of medicine will salute the people of America, with the toast "Your Health." This is the well-known title of the radio program of the American Medical Association and the National Broadcasting Company. The coming season will be the fifth; the first two years were devoted to health talks, and the last two seasons to dramatized health messages.

This year, the salutation will be addressed particularly to the teachers and students in the junior and senior high schools, in the hope that the program will be helpful in illustrating, amplifying, and enriching the health teaching in those schools. The program will be on the air while schools are in session, so that the program may be utilized directly in the thousands of schools which now have or soon will have radio and public address systems reaching the classrooms. Programs will be announced in advance in *Hygeia*, the health magazine. While the program is planned especially for high schools, it will not sacrifice the interest which it was held for listeners in the home. To teachers, students and stay-at-homes, the American Medical Association and the National Broadcasting Company will address their message of health education with the familiar musical theme "Hale and Hearty" written especially for the program, and the toast, "To America's Schools, Your Health!"

MEDICO-MILITARY TRAINING

The ninth annual training course for medical department reservists of the Army and Navy will be held at the Mayo Foundation, Rochester, Minnesota, October 3 to 16, 1937.

This training course was first inaugurated by the Seventh Corps Area at the request of the Mayo Foundation to give training in military medicine to the young medical men connected with the foundation. Other reserve officers requested permission to enroll and to take advantage of the opportunity to attend the clinical presentations during the morning hours. Such permission was granted and attendance has become so increasingly popular that it is now necessary to limit enrollment.

The program will follow the plan of past years. The morning hours will be devoted entirely to professional work in special clinics and study groups. Officers in attendance may select the course they wish to follow from the wide variety of presentations offered. The afternoon and evening will be devoted to a medico-military program under the direction of the Surgeon of the Seventh Corps Area (Army) and the Surgeon of the Ninth Naval District (Navy).

This training is on an inactive duty status and is without expense to the government. Enrollment is open to all Army and Navy reservists of the Medical Departments in good standing. Applications should be submitted to the Surgeon of the Seventh Corps Area, Omaha, Nebraska, or to the Surgeon of the Ninth Naval District, Great Lakes, Illinois. Enrollment is limited to two hundred.

The Surgeons General of the Army and Navy have signified that they will attend and it is believed that the Surgeon General of the Public Health Service will also appear on the program.

INTERNATIONAL ASSEMBLY

The International Assembly of the Inter-State Postgraduate Medical Association of North America, under the presidency of Dr. John F. Erdmann of New York, will be held in the new public auditorium of St. Louis, Missouri, October 18, 19, 20, 21 and 22, with pre-assembly clinics on Saturday, October 16 and post-assembly clinics, Saturday, October 23 in the hospitals of St. Louis.

The aim of the program committee, with Dr. George Crile as chairman, is to provide for the medical profession of North America an intensive postgraduate course covering the various branches of medical science. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selection of the contributors and the subjects of their contributions.

The St. Louis Medical Society will be host to the Assembly and has arranged an excellent list of committees who will function throughout the Assembly.

A most hearty invitation is extended to all members of the profession who are in good standing in their state or provincial societies to be present. A registration fee of $5.00 will admit each member to all the scientific and clinical sessions.

For further information, write Dr. W. B. Peck, Managing Director, Freeport, Illinois.

A list of the distinguished teachers and clinicians who will take on the program follows:

Doctors Joseph Eller, New York City; Fred M. Smith, Iowa City; Russell L. Haden, Cleveland; Loyal Davis, Chicago; Reginald Fitz, Boston; Donald C. Balfour, Rochester, Minn.; Richard B. Cattell, Boston; Frederick H. Hodges, Richmond; Wells P. Eagleton, Newark; John R. Caulk, St. Louis; Otto H. Schwarz, St. Louis; Claude F. Dixon, Rochester, Minn.; W. Hugh Cowie Romanis, London, England; Maurice B. Visscher, Minneapolis; Tinsley R. Harrison, Nashville; Frederick J. Kalteyer, Philadelphia; Waltman Walters, Rochester, Minn.; Cyrus E. Burford, St. Louis; Bronson Crothers, Boston; Alan deForest Smith, New York City; Dean D. Lewis, Baltimore; Alton Ochsner, New Orleans; David P. Barr, St. Louis; John J. Moorhead, New York City; Thomas Cecil Hunt, London, England; Elliott C. Cutler, Boston.

Alan C. Woods, Baltimore; Thomas E. Jones, Cleveland; John R. Fraser, Montreal; Marion L. Klinefelter, St. Louis; Dallas B. Phemister, Chicago; Robert D. Rudolf, Harold G. Tobey, Boston; Horace H. Soper, St. Louis; Eric Oldberg, Chicago; Nicholson J. Eastman, Baltimore; J. Harvey Black, Dallas; Wayne Babcock, Philadelphia; Charles R. Austrian, Baltimore; Walter C. Alvarez, Rochester; Leon H. Cornwall, New York City; Irvin Abell, Louisville; Robert L. Levy, New York City; Walter E. Dandy, Baltimore; Merrill C. Sosman, Boston; Frederick P. Coller, Ann Arbor, William J. Kerr, San Francisco; Charles A. Elliott, Chicago; William E. Lower, Cleveland; Jonathon C. Meakins, Mon-

treal; John F. Erdmann, New York City; Elliott P. Joslin, Boston; Wilson Hey, Manchester, England; Leonard G. Rowntree, Philadelphia.

J. William Hinton, New York City; John A. Toomey, Cleveland; William D. Haggard, Nashville; Ralph A. Kinsella, St. Louis; Emil Novak, Baltimore; Fred W. Rankin, Lexington, Ky.; William H. Vogt, Saint Louis; Charles R. Stockard, New York City; William T. Coughlin, St. Louis; Herman L. Kretschmer, Chicago; Frank H. Lahey, Boston; Roy W. Scott, Cleveland; Evarts A. Graham, St. Louis; Cyrus C. Sturgis, Ann Arbor; George Crile, Cleveland; Philip D. Wilson, New York City; Charles Hendee Smith, New York City; Seale Harris, Birmingham; W. McK. Craig, Rochester, Minn.; Alfred W. Adson, Rochester, Minn.; Russell L. Cecil, New York City; Gabriel Tucker, Philadelphia; Hugh H. Young, Baltimore; Fred W. Bailey, St. Louis.

S. J. RESOLUTION 188

In the Senate of the United States on July 22 (calendar day, July 28), 1937, Senator J. Hamilton Lewis introduced the following joint resolution; which was read twice and referred to the Committee on Finance: (See Editorial)

Joint Resolution: To provide medical aid for the needy and the stricken with illness who are unable because of poverty to provide treatment and hospitalization; *also to establish all licensed medical practitioners as civil officers of National Government.*

Whereas the Federal Government has recognized its social responsibilities to its citizens by the enactment of the Social Security Act; and

Whereas an extension of such responsibilities is necessary to provide adequate medical care and attention for the impoverished and needy to assure the full enjoyment of social security: Therefore be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That all physicians and surgeons who practice the profession of medicine or surgery in the United States or its Territories are hereby declared to be civil officers of the United States for the purposes of this joint resolution.

SEC. 2. Any such physician or surgeon shall render such medical or surgical aid requested of him by any impoverished individual who is in need of such aid, and, where necessary, to order the hospitalization of any such individual. Any hospital to which such an order is directed shall, insofar as its facilities permit, provide for the hospitalization and care of any such individual in the manner best adapted to accomplish his recovery.

SEC. 3. Any physician, surgeon, or hospital rendering aid to impoverished individuals as provided in section 2 are authorized to make such charges for such aid as are reasonable and just. Bills for such charges shall be submitted to the Social Security Board, which is authorized and directed to pay them, under such rules and regulations as it may prescribe.

SEC. 4. (a) It shall be unlawful for any physician, surgeon, or hospital official or employee to refuse to render aid as provided for in this joint resolution, or to make exorbitant or excessive charges for such aid, or to make any charge against an individual to whom aid has been rendered in addition to the charge paid by the Social Security Board.

(b) It shall be unlawful for any person fraudulently to represent that he is impoverished for the purpose of receiving aid under this joint resolution.

(c) Any person violating any of the provisions of this joint resolution shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be fined not more than $1,000, or imprisoned not more than three months, or both.

SEC. 5. The Social Security Board shall have power to make such rules and regulations as may be necessary to carry out the provisions of this joint resolution.

SEC. 6. There is hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this joint resolution.

MEDICAL DIRECTOR APPOINTED

Dr. D. L. Butterfield, formerly in charge of medical service for the state CCC camps, has recently been named as Administrative Assistant to the State Department of Public Assistance in charge of all departmental activities which engage in rendering medical service to the indigent. In this capacity, Dr. Butterfield will serve as advisory director of such bureaus as Crippled Children, Blind Assistance, Emergency Medical Relief, and Adult Physical Rehabilitation.

The appointment of Dr. Butterfield has created a direct medical liaison between the Department of Public Assistance and the West Virginia State

Medical Association. A similar position, to be filled by a full-time medical doctor, was recommended more than two years ago by the Association's Advisory Committee to the West Virginia Relief Administration. At that time the recommendation received serious consideration but the office was not created because of lack of funds.

Dr. Butterfield has already attended several meetings of the Association's Advisory Committee during which numerous mutual problems confronting the profession and the Public Assistance Department were discussed. Through the medium of the new office held by Dr. Butterfield, it is felt that closer cooperation will exist between the two groups and that the existing points of difference will shortly be ironed out. Members of the Association who differ with the policies of the Public Assistance Department or who have specific complaints against the medical program should place such differences and complaints before the executive secretary for the committee's consideration.

COMPULSORY IMMUNIZATION

The public schools of West Virginia will reopen within the next 10 days. Hence this is an opportune time to call attention of the new West Virginia law requiring compulsory vaccination and diphtheria immunization as a prerequisite for school enrollment. The immunization law does not apply to children already enrolled in the public schools prior to the present term, but does apply to all who do enroll for the coming term and all future terms.

The State Health Department and the various county health organizations have expressed the desire to cooperate with all of the Association component societies in working out plans and campaigns to bring this immunization work to the offices of the family doctors. It is generally agreed that some immunization clinics will have to be operated for the indigent, but health officials are anxious to have the great majority of the work done by the physicians in private practice.

A plan toward this end has already been inaugurated by the Central West Virginia Medical Society. A special committee of this society has recommended that a fixed immunization and vaccination fee be established for all its members, that certain office hours of certain days be set aside for this special type of work and that the District Health Officer cooperate in publicizing these facilities offered by the doctors in private practice. In discussing this matter before the Central West Virginia Society at Webster Springs, it was suggested that if "follow-up" clinics were necessary, such clinics should be designated as "charity" or "poor" immunization clinics. It was felt that the use of such a designation would carry sufficient stigma to filter out the pay patients from the real charity cases. Cabell county has had a somewhat similar plan in operation for several years.

REHABILITATION CASES

Beginning on September first all adult physical rehabilitation cases of the Department of Public Assistance will be assigned direct to the surgeon who is to take charge of the case. In the past, cases have been assigned to the chief surgeons of the various hospitals for reassignment to surgical staff members. According to many letters received by the Association's Public Advisory Committee, which committee brought about the change in the assignment method, the new plan will meet with the wholehearted approval of West Virginia surgeons.

One of the chief objections of the old assignment plan was the apparent tendency to make the hospital, rather than the individual surgeon, responsible for the welfare of the patient. This objection is eliminated under the new system. Each surgeon who receives a rehabilitation case in the future will be directly responsible to the Public Assistance Department and hospitalization will again become a matter of secondary rather than primary consideration.

FROM OTHER JOURNALS

SOCIALIZED MEDICINE

What the self-respecting laboring man wants is the right to choose his own personal physician, and a wage sufficient to pay the bill. He has found by unfortunate experience that medical attendance supplied by paternalistic schemes is more likely than not to turn out unsatisfactorily. That is the essence of an intelligent article by Mr. James H. Anderson, editor of the *Kansas City Labor News*, and published in the Oct. 10 issue of the *Jackson County Medical Journal* (Kansas City). He says:

Free medical care, including hospitalization, clinics, and medicine, supported and maintained by states and local communities through a general tax-

ation, has to a certain extent existed for ages. Such care and such hospitalization are essential and commendable and should be continued, but such free service was created for the purpose of giving aid and succor to those financially unable to pay their own way. I believe, and I think you will agree with me, that it was not created or intended for those who were or are able to pay.

Labor is not in favor of charity, the dole, or relief for those who are able to work and earn a decent pay, nor in favor of so-called free medical care, whether furnished by corporations employing groups of men and women, or whether supported and maintained by federal, state, or local communities, because experience has taught us that such service is not always very satisfactory, and in the long run those receiving such service have to foot the bill anyway, either through deduction in pay or through taxation.

It has been found, for instance, that physicians furnished by employers, or even by labor and fraternal organizations, as a general rule do not render as satisfactory service as those privately employed by the patient himself.

Men of labor as well as others, in case of sickness or disability, prefer to choose their own medical attendant in whom they have confidence and who they know will use all of his knowledge, science, and ability for a speedy recovery.

I do not believe that labor looks with much favor on compulsory insurance. . . . Opportunity to work and to earn is the cherished hope of all members of organized labor. The American Federation of Labor was founded for the purpose of obtaining for its members decent wages, reasonable working hours, and sanitary working and living conditions.

What labor wants is a decent wage—a wage sufficient to meet the requirements of the American standard of living; a wage that will provide sanitary housing, wholesome food, decent clothing; enough to keep the children in school instead of in the sweat shop; clean amusements, medical care, premiums of health, accident, and life insurance, and all those other things which are so essential to the well-being of mankind, besides some kind of social security that will care for the aged.

Now, I will say to the medical profession, in all candor and sincerity, that if the working people were permitted to work and would receive decent wages, if the unemployment of those able and willing to work was reduced to a minimum, they could and would, when sick or disabled, be able to employ and pay their own medical attendant, buy their own medicine, and pay their own hospital bills. Physicians and surgeons would receive just and equitable compensation for their services; hospital bills and medicine would be paid by the patients themselves without federal, state, or local aid and without taxation being placed on the general public. —*N. Y. State J. M.*, Dec. 1, 1936.

THE OVERWEIGHT HAZARD

Well indeed has it been said,

"*The longer the belt, the shorter the life.*"

Reduction of overweight means a corresponding reduction in mortality statistics.

"Body girth and longevity vary in an inverse ratio."

Such is the finding of the insurance companies who feel an increase in mortality where it pinches the most—i. e., in the pocketbook.

Serious attention to the problem of overweight is one of the chief hopes of mortality reduction.

It is against the serious diseases of middle life and older age that the most progress needs to be made, and it is against these diseases that overweight must be fought militantly.

Overweight tends to shorten life. Definitely overweight is detrimental to health.

The most recent insurance study shows that men who are considered as distinctly obese, that is, men who are 35 per cent or more above average weight have a mortality of one and one-half times over that of average men.

These figures have been taken from a group of plus-standard overweights. In fact, the Metropolitan Life Insurance Company, an organization whose very life blood is manufactured from statistical findings, remarks upon this topic, in part:

"The greater the degree of overweight, the greater the mortality rate. Thus, in contrast with the approximately 60 per cent excess mortality of the distinctly obese group with 35 per cent overweight or more, men who are from 25 to 34 per cent overweight have an excess mortality of 45 per cent, and those 15 to 24 per cent overweight, an excess mortality of 30 per cent. Those but slightly overweight have a mortality only a little higher than those of average weight.

"Once full maturity has been reached, underweight, that is, weight below the average for a given age, is a decided advantage. With the better understanding of the way tuberculosis spreads and with its ultimate conquest an attainable goal, that disease is much less a menace to young underweights than it was, and the mortality of underweights, relative to those of heavier builds, has improved.

"The most favorable build as regards mortality at the various adult ages in men is as follows: up to age 30, slight overweight; ages 30 to 39, average weight; ages 40 to 49, slight underweight; ages 50 and over, an appreciable degree of underweight.

"There are several types of overweights. The pot-bellied variety is the worst. The most recent insurance study shows that overweights whose abdominal girth was more than two inches greater than chest girth at full expansion, had an extra mortality of approximately 50 per cent, over and above the excess mortality associated with overweight itself. Another study has shown that tall overweights with relatively long trunks and short legs did better than other tall overweights. but among medium height and short overweights, the reverse is true. Overweights with big chests showed up less favorably than those with smaller chest girths. Generally speaking, the solidly built, large-boned overweight is superior to the flabbier type.

"Certain serious physical defects are generally more common among overweights than those of slighter build. High blood pressure, for example, is over two and one-half times as common among overweights as among persons of average weight. Albuminuria and glycosuria in significant amounts are nearly twice as frequent.

"The specific hazards of overweight include most of the important diseases of adult life, especially the cardiovascular-renal diseases, which are responsible for an increasing proportion of the death toll today. Thus, the death rate of overweights from heart disease and from cerebral hemorrhage is one and one-half times that of average weights and nearly twice that of underweights. For angina pectoris, the difference is even larger. The mortality of overweights from this condition is more than twice that of average weights and two and one-half times that of underweighs. Bright's disease exacts one and three-fourths times as many deaths from overweights as from average weights and two and one-fourth times as many as from underweights.—*Illinois Medical Journal.*

"HIS OWN GARDEN"

It is not too late for the general practitioner of medicine to recover that neglected phase of his practice which he has allowed the public health officials to take away from him. No one is better qualified to practice preventive medicine than the family physician. When he delivers the infant he has the most intimate and confidential relationship with the family that is ever his privilege to obtain. If he will then evince a sincere interest in the development of this infant by arranging for periodic examinations, by providing an immunization program for the individual infant and the particular family, he may maintain that much cherished and most desirable position of family adviser.

It is the family doctor who first learns about the sporadic cases of infectious disease in his community. He is the first to observe the increasing virulence and spread of disease before it becomes epidemic. Who is then better qualified to advise the family concerning the necessary precautions and the proper measures for each member. The present accepted immunization procedures—against smallpox, diphtheria, whooping cough, typhoid fever—were all developed by practicing physicians. The most effective diagnostic procedure for the detection of early tuberculosis was developed by a practicing physician. In spite of the fact that these measures are the common knowledge of most physicians and that the indications and proper time for their use should always be determined for each particular individual by the family adviser, the practitioners of medicine have allowed these measures to slip out of their hands. The enterprising, aggressive enthusiasts of the health and welfare organizations have appropriated these measures because the door has been left open. Unhampered by restrictions as to ethics or publicity, they have rapidly enlarged their activities until they now invade the home to usurp the functions of the private family physician. In some communities the health officer now brazenly sends his nurse or some other unqualified representative to pass upon the diagnosis of the private physician who has been watching the disease from its onset.

So-called "specialists" are sent around to communities to hold clinics and consultations on the private patients of the family doctor. Eventually the family doctor must review the entire program for each patient and probably check up on the pro-

cedures followed by nurses or inexperienced "specialists." Who is qualified to determine whether tonsils are to be removed—the young medico who looks into the throat or the doctor who has delivered the infant and has treated him for any disease he may have had? If, and when, there is any follow-up to the repeated "examinations," any actual attempt to correct the deformities or disease conditions found, it is the family doctor who must carry out the necessary therapeutic measures. If the family physician would retain his position of advantage as family adviser, he may eliminate the bureaucratic waste of the usually perfunctory special clinics, immunizations, tests, round-ups, etc., by leaving no patients available. He may still supersede the radio broadcaster, the newswriter, or the political propagandist by providing reliable and accurate information concerning recent scientific developments for his patients directly and first hand. The public would prefer to consult the family doctor first or at least finally concerning new developments. Let the general practitioner put away the scalpel and the dreams of specializing to practice preventive medicine in his own fertile garden. M. G. P.—*Wisconsin Medical Journal.*

EGYPTIAN SPLINTS

There was trouble in Pharaoh's palace.

Egypt's queen, Tutankhamen's mother, was in a rage. In her fury she clenched her fist, lashed out and struck.

We don't know whether she hit slave or husband. But we do know that she struck hard enough to break a bone in her hand.

The evidence was found recently when the lady's body was discovered in an ancient tomb. The healed break showed. And there is no doubt that she used her fist because that is the only way that that particular bone could have been broken.

In those days, and as far back as 5000 years ago, Egyptian physicians used excellent splints for mending broken bones. They were padded with coarse grass and bound with linen sheets as expertly as a surgeon does today.

Yet those old doctors made poor jobs of their fracture cases. And we of today weren't must better at it until about 40 years ago.

Then the x-ray was discovered and now broken bone can be brought together in a perfect fit. And painlessly, too, with the use of anesthesia.

Forty years ago there was no science involved

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in mending a broken bone. Today five distinct sciences are used: electricity, physics, chemistry, medicine, and surgery.

Costly, of course, but effective.

CALCIUM ORTHO-IODOXYBENZOATE

Cohen (Clin. Med. & Surg., 44:341, Aug., 1937) reports on a series of 125 cases of classic atrophic arthritis where calcium ortho-iodoxybenzoate was the only drug therapy used. With those patients receiving therapy over a considerable period, five per cent were regarded as cured; 43 per cent very much improved; and 22 per cent somewhat improved. This represents a total of 70 per cent who received definite benefit from the drug. The dose employed was usually from two to four times that heretofore recommended and varied between three and six gms. daily. While this increase resulted in a greater incidence of intolerance, it is advocated on the basis of greater therapeutic efficiency.

Neither age nor sex appeared to be of significance as regards the efficacy of calcium ortho-iodoxybenzoate (Oxo-ate "B") and no particular type of atrophic arthritis was benefitted more than another. Complete hematological examinations and laboratory tests indicated that the drug has no effect on the red or white blood cells, heart or kidneys even when taken over long periods of time. It is concluded, therefore, that calcium ortho-iodoxybenzoate may be safely used in large doses and is a valuable adjunct in the treatment of atrophic arthritis.

RABIES CREATES PANIC

July—a hot, sultry day! Two streams of human traffic ebb and flow at one of the busiest corners in the city. From the congested, moving mass suddenly comes a shriek of pain. Cries of "Mad dog!" explain the shriek, while fear-stricken people rush here and there in confusion.

As the scene clears, a woman is seen on the ground, holding her ankle, the skin lacerated by the animal's teeth. A man stands with a blood-streaked, bitten hand by his side. The terrifying cries of a child reveal a youngster with face torn and lacerated. Near them, a dog, foaming at the mouth, runs aimlessly. A police officer appears with

(Continued on page xxiii)

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(Continued from page xx)

a drawn revolver, and in a moment the dog is killed.

Such a scene prompts Dr. Herman N. Bundesen to contribute an article entitled "Rabies" to the August *Hygeia* in a plea for conquest of this scourge through cooperation.

If you have been bitten by a dog, no matter how slight the bite, and even if you believe that the dog does not have rabies, have the wound treated by a physician, and immediately place the dog under the observation of a veterinarian for fourteen days so that you may be certain whether the dog has rabies.

Fortunately hydrophobia develops in only one out of seven persons bitten by a dog which has rabies. Rabies and hydrophobia are the same disease; it is called rabies in animals, hydrophobia in man. It is caused by a germ carried in the saliva, which enters the body through the wound and spreads along the course of the nerves. The symptoms usually develop in about three weeks.

The Pasteur treatment is effective only when given before the symptoms of hydrophobia appear. It is not a cure; it is only a preventive. If there is a rabies epidemic among the dogs in a community, it may be well to start giving the antirabic vaccine at once to any one who is bitten, without waiting for a report on the dog's condition.

MEDICAL COLLEGE OF VIRGINIA

The 100th session of the Medical College of Virginia will open September 17 for registration. Freshmen in the schools of medicine and dentistry will register on September 7, thus giving first year students in these two schools two weeks' longer term.

The Medical Unit of the Reserve Officers' Training Corps has been reestablished at the college and Lieutenant Colonel E. B. Maynard will report for duty on September 1. Last year the work was carried on by Major Sam F. Parker of Fort Monroe, a full-time man not being appointed.

The new dormitory towards which the Public Works Administration made a grant of $140,-850.00 is progressing satisfactorily. It is expected that this building will be ready for occupancy about April 1, 1938.

A grant of $300.00 has been received from the Ella Sachs Plotz Foundation of Boston for research

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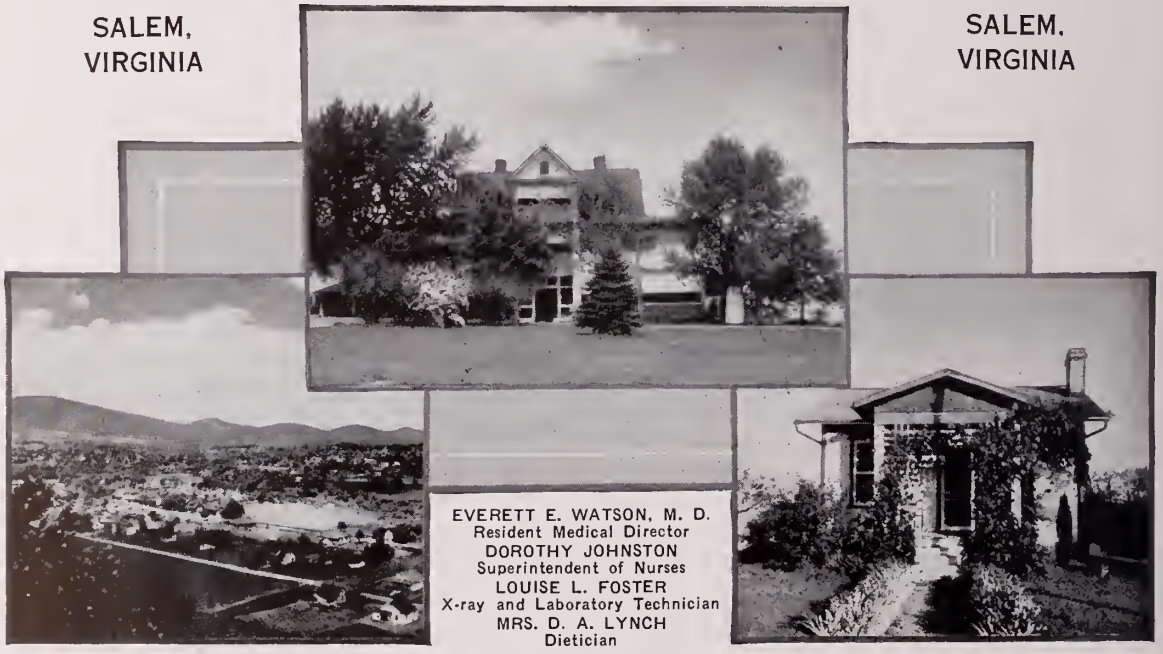

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work in neurology. This work is being done by Dr. E. H. Ingersoll, associate professor of anatomy. A grant of $800.00 has been received by the department of pharmacology for research on derris from interested New York manufacturers. Dr. Harvey B. Haag, professor of pharmacology, will be in charge of this research.

Dr. J. D. Kernodle of Wilmington, Delaware, has been appointed assistant in pathology and reported for work on July 15. Dr. Clair R. Spealman of Saint Louis has been appointed associate in physiology and pharmacology and will join the staff of the college on September 1, 1937.

Contracts have been awarded for furniture and fixtures, sterilizing equipment, and metal laboratory equipment for the new clinic and laboratory building now nearing completion.

WEARERS OF CONTACT GLASSES

In the use of contact glasses, the eyeglass that fits snugly against the eyeball, men predominate in the ratio of five to one among the 3,000 persons now wearing them, Dr. James E. Lebensohn reveals in his article "Contact Glasses" now appearing in the August *Hygeia*.

Most of those who choose to wear contact glasses do so because of medical and vocational considerations rather than for purely cosmetic reasons. The principal drawback has been the difficulty involved in securing a comfortable fit, but this problem is being gradually overcome by improvements in design.

EXPERIENCE WITH ANALEPTICS

Charles L. Burstein and E. A. Rovenstine (Dept. of Anesthesia, Bellevue Hosp.) Curr. Researches in Anes. & Analg., 16:151 (May-June) 1937.

This study is concerned with the analeptics, metrazol, picrotoxin, and coramine, which act on the vasomotor and respiratory centers as to their effects in safeguarding patients against depression of sedative or hypnotic drugs used in anesthesia.

Metrazol was administered in doses of one and one-half to two cc. intravenously and repeated in five minutes if necessary. With intramuscular injection the dose was the same; the reaction similar but less rapid. Coramine was given in doses of five cc. repeated at five to 10 minute intervals until 25 cc. were used. The observations on picrotoxin have not permitted an accurate standardization of

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the dosage. It was given in three mgm. doses except in cases of intoxication from the barbiturates. However, it appears from these cases that six mgm. doses may wisely be used.

In morphine poisoning, ether or paraldehyde depression, cyclopropane anesthesia, metrazol was clinically most effective. Respiratory activity usually became more normal. The pulse and blood pressure were often improved and a more rapid return to consciousness was usually promoted. The action of metrazol in tribromethanol depression was not as prolonged as that from coramine, and picrotoxin was the least serviceable.

The most interesting observations were made in connection with the use of these analeptics in depression or intoxication from various barbiturates. Although not in keeping with experimental evidence, the response following metrazol was more satisfactory than from picrotoxin. First, the respiratory rate and volume exchange were improved and succeeding doses frequently awakened the patient. Coramine also stimulated the patient in some instances but with less effect than with metrazol and picrotoxin. In two instances coramine appeared to increase the duration of narcosis and retarded recovery. Convulsions occurred in one patient following picrotoxin. This patient had received evipal previously and 45 minutes later three mgm. of picrotoxin were given intramuscularly. Generalized tremors developed in three minutes, lasting about 15 minutes. A satisfactory technique is to give one mgm. of picrotoxin per minute until an effect is secured. Picrotoxin may be added to an infusion of five per cent glucose, given with endotracheal intubation.

While the value of analeptics in hypnotic drug poisoning has not been completely established, a clinical improvement follows their use. In general, metrazol is the most satisfactory of the analeptics studied. The author believes that artificial respiration should not be omitted in any case where the medullary centers are depressed.

INTERNATIONAL MEDICAL ASSEMBLY

Interstate Postgraduate Medical Association of North America

Public Auditorium, St. Louis, Mo. OCTOBER 18-19-20-21-22, 1937

Pre-assembly Clinics, October 16; Post-assembly Clinics, October 23, St. Louis Hospitals
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David P. Barr, St. Louis, Mo.
James H. Black, Dallas, Texas
Cyrus E. Burford, St. Louis, Mo.
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John R. Caulk, St. Louis, Mo.
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THE PREVENTION OF HEART DISEASE*

By Louis Faugeres Bishop, Jr., M. D.
New York City, N. Y.

Heart disease is a public health problem of great present interest, and there are some new and interesting trends which offer an encouraging future. The major types of heart disease with which prevention is concerned can be grouped under six headings and will be discussed in this order: 1, syphilitic; 2, rheumatic; 3, hypertensive; 4, arteriosclerotic; 5, cardiac neuroses; 6, nutritional heart disease.

Syphilitic Heart Disease: It is important to consider the types of heart disease where the etiological factor is definitely known. Foremost among these is syphilitic heart disease. It is evident that if syphilis were completely wiped out there would be no heart disease due to syphilis, and one of the major etiological factors would be removed. There is sweeping the country at this time a campaign that may accomplish just this. The Director of the United States Public Health Service has called for such action and pointed out that one out of every ten American adults is stricken by syphilis, many of them innocently. The object of the present campaign is to wipe out the plague, as has virtually been done in Scandinavia, where, thanks to public health work, there were only 1,600 cases last year. (This is surely a small fractional proportion of, roughly, a population of twelve millions.)

There is one valuable thing that this campaign is accomplishing. It is bringing to all more prompt and effective treatment of the early stages of the disease, and this in turn leads to the etiological prevention of a great deal of cardiovascular syphilis.

Knowing that cardiovascular syphilis develops very slowly in an infected individual, one can see that much depends on early treatment. It has been repeatedly demonstrated that but a very small number of persons receive really adequate treatment at the time of the initial infection. What often happens is that following such failure to treat efficiently an early case of syphilis, the lesion

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progresses on a long silent way. The result is very frequently unrecognized early aortitis in a living patient. It must be admitted there is good reason for overlooking this extremely difficult diagnosis, for the symptoms and physical signs which aortitis produces are similar to two common non-syphilitic conditions, essential hypertension and arteriosclerosis. Therefore it is realized that the real problem of prevention of cardiovascular syphilis lies in the eradication of syphilis, as in Scandinavia.

Rheumatic Heart Disease: Rheumatic heart disease usually accompanies rheumatic fever. Therefore the prevention of rheumatic heart disease depends upon the control of rheumatic fever. Here lies the great obstacle to prevntion, for the cause of rheumatic fever is still unknown. So long as the etiology of rheumatic fever is undetermined, we are held at bay in diminishing the development of rheumatic heart disease. The streptococcus is widely accepted as the sole etiological factor. It is however thought by some to be the sensitizing factor while others believe that it plays no part but that of an innocent bystander.

Research continues unabated for the cause of rheumatic fever. Much has been learned about this infection which will in turn aid the prevention of rheumatic heart disease. Who knows how soon the day may come when the cause will be discovered? It is well to review briefly what is now known about prevention of rheumatic fever. We do know that its climatic aspects, its essential variability, its relation to poverty, its familial occurrence—all tend to show that the main effort in prevention should be based on trying to improve the standard of living. It has been clearly demonstrated too that in the individual in whom early diagnosis is made, a long period of rest offers the best promise of continuous cardiac health.

Hypertensive Heart Disease: In considering the question of the prevention of hypertensive heart disease clinicians are faced with the fact that there is little known about the etiological factors which play a part in the development of hypertension. Here again as in rheumatic heart disease, we are baffled in prevention by the unknown cause of hypertension. The facts have been cited often enough of what is really known about hypertensive heart disease. We know that 15 per cent of all adults have hypertension, and that 23 per cent of all deaths of patients who have passed the age of 50 years are directly attributable to this disease; that cardiovascular-renal disease, in which high blood pressure is the prime etiological offender, causes more than four times as many deaths as cancer.

In essential hypertension, which has constituted the larger number of hypertensive cases during the last twenty or thirty years, there has been no evidence that it is due to any number of hypothetical postulates. There is no evidence adduced that it is due to an abnormal amount or kind of substance circulating in the blood stream; that unbalanced diet has anything to do with it; that allergy plays a considerable part; that there is any type of infection associated with essential hypertension; that alcohol or tobacco have any influence; or that body build is of importance. There is very little known about this condition other than the importance of heredity.

At least we do know that there has been demonstrated a distinct hereditary factor in hypertension. We can predict that hypertension may occur in certain individuals with a distinct familial history. If a susceptibility to hypertension can be foretold in certain people, may we not in these instances be able often to regulate their mode of life so that they may escape the rapid progress of this condition?

The Mayo Clinic has developed a rather remarkable test whereby it is believed that one can predict in which individuals essential hypertension is likely to develop. This test is as follows: While the blood pressure is being measured on one arm of the person, the other arm is immersed in cold water.

Certain people hyper-react to this condition, and their blood pressure does not return to normal until after a considerable period following this stimulation. These subjects are called "hyper-reactors." At the Mayo Clinic they have noted that it is such people who are apt to develop hypertension of the essential type. They have further noted that this "hyper-reaction" occurs in a far larger number of individuals where there is a familial history of essential hypertension. In other words, they can occasionally predict with a fairly definite degree of accuracy whether a person is likely to develop a hypertensive state.

If we can predict at least what individuals are apt to develop the hypertensive state as life goes on we can really do something about the prevention of some ultimate heart disease. The studies in children have been particularly interesting, for in about 18 per cent of all children the blood pressure responds normally to the test. Interestingly enough this is approximately the percentage of essential hypertension in an adult hypertension. Therefore, one assumes that this tendency to essential hypertension is carried even in children, probably by virtue of heredity.

In the prevention of hypertension and the resultant hypertensive heart disease, there is no doubt that the physician himself plays an important part, both as a preventor and as a therapeutist. Re-education is a most important part of treatment. The earliest symptoms of hypertension are often very vague. They may consist of such terms as "irritability" or statements such as "I am not what I used to be." Heed must be taken of even slight deviations from the average state of well-being if we are to grasp the opportunity to recognize the hypertensive state and prevent eventual heart involvement.

Arteriosclerotic Heart Disease: Once again it must be acknowledged that there is little known about the etiological factors which are responsible for arteriosclerosis of the coronary arteries. It is interesting to note what has been stressed in seeking the actual cause with a view to prevention. It has been observed that in addition to the usual factors —stress and worry—careful attention has been given to the effect of modern living. It has been noted that there may be a more direct association of coronary thrombosis with those who lead sedentary lives. The fact that electric light is now so universal has even been blamed—and others have gone so far as to consider the fumes from automobiles as a precipitating factor.

It does seem that the cultivation by the physician of an optimistic viewpoint with regard to the person with arteriosclerotic coronary artery disease, and in particular with the individual who may have a coronary thrombosis, may be an important factor in preventing cardiac breakdown. Recently, Dr. James M. Herrick, of Chicago, who first described this condition, when he was asked what he thought of coronary disease, remarked that all he could say was, that "it is like the description of a boy in the book by Thomas Bailey Aldrich, 'The Bad Boy,'—that he was not such a bad boy, but a pretty bad boy," and Dr. Herrick added: "Coronary disease is not such a bad disease but a pretty bad disease." With that attitude so delicately indicated by the one most qualified to advise, we are in a better position to treat, and perchance prevent this phase of heart disease than with a too prolonged sanguine point of view.

Cardiac Neuroses: There is no doubt that cardiac neuroses form an important part of heart disease in which the physician plays the major rôle. There is no doubt that cardiac neuroses could be prevented to a great extent should the art of "healing" or treatment be reintroduced to the modern generation of physicians.

At a recent meeting of the American College of Physicians in St. Louis, the most outstanding paper was concerned with the art of the physician. On the other hand with the great amount of information about heart disease that is being broadcast to the public, will there not be an increase of cardiac neuroses?

It seems safe to say "yes." The campaign against cancer has done just this, and with more attention directed to the heart, the more "heart conscious" people will be because the heart is so intimately linked with the emotions. In part we may come to deplore the increased interest in heart disease as it affects the neurotic, while at the same time we may rejoice in the aid it may be to the parent of the child with congenital or rheumatic heart disease.

Let us remember that the influence of emotional disturbance of the body as it may affect the circulation may be far more profound than one ordinarily realizes. It is possible for emotional upset to affect not only the rhythm, but the size of the heart. The effect of the emotions may result even in an altered blood chemistry.

The physiological laboratory deals essentially with the more elemental emotions, whereas the physician must often have to do with the more subtle emotions, and it is just here that he may render aid in the prevention of cardiac neuroses. There is no doubt in my mind that the right attitude of the physician furnishes anchorage for the cardiac neurotic.

The removal of fear in a patient with functional heart disease is of the greatest value in preventing the development of cardiac neurosis. To this end, the "doctor-patient" relationship must early be instituted. A definite harbor is the need of the neurotic, and even more so when his heart chimes in with his mental aberrations. We have gone half the way when we admit that as doctors our own placebos are better than any other placebos. We have almost reached our goal with the neurotic when we further acknowledge to ourselves that to many a patient, the prescription is still tinged with magic.

Correct diagnosis has much to do with the prevention of cardiac neuroses. It has been the writer's experience occasionally to encounter a cardiac cripple, so handicapped as a result of a mistaken diagnosis. The story leading up to this is all too familiar: A child, and usually an only child, is cautioned by some physician against overactivity, and invalidized on the physician's belief that the myocardium is the seat of the trouble. While this is a very rare occurrence, still when it does occur it is a definite calamity.

When we attack the prevention of cardiac neuroses, with all their highways and byways, soon it is realized that cardiology is not a pure science when it functions for this phase of heart disease. Cardoilogists must then be hybrid — half cardiologists — half psychiatrists.

After having come so far with the cardiac neurotic as the diagnosis, it may be laid down as a never-failing axiom, that accurate diagnosis must always be based on complete examination. While half of all symptoms may be nervous, the doctor should never be impatient with the neurotic, but go over him again and again until finally sure that nothing has been neglected. Then from time to time he will discover some real ailment. A safe rule is to be as painstaking with a neurotic as with a periodic health examination. To some extent it can then be safely said that cardiac neurosis can be prevented by cardiac diagnosis.

Nutritional Heart Disease: Among the more rare forms of heart disease there have been some new and interesting discoveries which are important from the standpoint of prevention. First among these comes heart disease due to vitamin or nutritional deficiency. It has taken us a long time to realize that there may be a so-called dysfunction of the cardiovascular system which may be due to unbalanced food intake. Such a condition may affect a normal heart on the one hand or a heart that is already structurally diseased. This type of heart disease is not unlike that reported from the Orient in conjunction with beri-beri.

Although heart disease due to nutritional or vitamin deficiency is comparatively rare and only recently well recognized, its prompt response to vitamin treatment does indicate a distinct advance in the campaign for preven-

tion of one type of heart disease. It indeed seems more than likely that as knowledge increases regarding the rôle of the vitamins in nutrition the method will become more widespread in solving the great problem of prevention of heart disease.

Heart disease now constitutes a very important public health problem and it has been of interest to note in what directions the various public health agencies are active. The work of the principal social agencies concerned in this question will be discussed, and finally some consideration given to the subject as a world topic.

The Heart Association and the Prevention of Heart Disease: In a survey of the various heart associations and their work in preventive campaigns, their approach may be broadly defined as educational. In the literature of the American Heart Association, Inc., one of their pamphlets for distribution carries a slogan on the cover which stresses the economic aspect. In "Heart Disease and Its Prevention" the following slogan is of interest: "Every heart lesion that can be prevented decreases individual suffering and diminishes the economic burden of the community." Or again, reading on, "Social Aspects: The prevention of heart disease is a large problem, the medical aspects are important, but the progress of the movement will be halting and inadequate until it enlists the fullest cooperation of the physician, the family, the school authorities and employers in securing the systematic examination of every individual, the proper care and provision of those suffering from acute infections, and during their convalescence, an effective supervision of those whose heart's efficiency has been impaired by disease." Another important point: "Organization for Prevention: Organization for prevention of heart disease is as necessary as for the control of tuberculosis. Reduction of infections and habits that lead to heart disease can be accomplished by education and public interest such as has been provided in other fields of preventive medicine." Here it goes without saying that financial aid is the prime requisite to start the ball rolling for a preventive heart disease campaign. The public should realize that the need for this is second to none.

For a nominal price the American Heart Association has a series of educational pamphlets for the public, among some of which are: Diseases of the Heart (A Summary for Layman and Lecturer), Heart Disease Mortality Statistics, Heart Disease and School Life, Convalescent Care of Children with Rheumatic Heart Disease, Problems in the Prevention and Relief of Heart Disease, Advice to Those Who Have Arteriosclerosis or High Blood Pressure, Advice to Those Who Have Rheumatic Heart Disease, Advice on Marriage and Pregnancy to Those with Heart Disease, and Advice to Those Who Have Syphilitic Heart Disease.

The Association publishes or distributes: Bulletin of the Association (Quarterly), Modern Concepts of Cardiovascular Disease (Monthly), Criteria for the Classification and Diagnosis of Heart Disease, Atlas of Congenital Cardiac Disease, Standard Requirements for a Cardiac Clinic, Statistical Handbook, Cardiac Record Charts, Films and Lantern Slides. And everyone sees the American Heart Journal, edited by the Association.

The films and lantern slides deserve a further word as to their aid in preventive work, for they may be rented by physicians for use in talks to lay audiences. Then too they have an especially compelling poster which depicts the early demise with heart disease of a father of a family, graphically illustrating the effect on his wife and son. Funds are needed for this worthy object of educating the public in a knowledge of the dangers that beset the heart of any average person.

The Association also feels that the parent needs education with regard to the dangers of rheumatic fever and other infectious diseases. They believe that there would be a great deal less rheumatic heart disease if "growing pains" were understood to be significant. Emphasis should also be placed on the importance of giving a child just one

more day in bed before letting him up after convalescence from an infectious disease. The Association feels that great strides could be made in prevention of serious disability from rheumatic heart disease if more cardiac homes were available.

One of the most important directions in which the American Heart Association and the various state associations have aided in prevention is in their attempt to establish a definite nomenclature so that each cardiac case can be considered from the standpoint of etiology, structural abnormality, functional disorders and the amount that normal activity is limited by the cardiac condition. In other words, by means of their classifications of heart disease, they have tried to place within the province of the physician the knowledge to enable him to make as exact a diagnosis as possible in each cardiac case he may see. All of us who struggle for accuracy realize that perfection in diagnosis is often impossible of fulfillment. But this is an important step forward in prevention.

Full appreciation should be given to the Association for all it has done and is doing toward the prevention of heart disease.

The Insurance Companies and the Prevention of Heart Disease: The insurance companies have contributed to the prevention of heart disease. They have a unique opportunity to study large groups of people. In the course of their routine work they are often able to observe the earlier phases of arteriosclerotic heart disease.

While the insurance companies perform an interesting part in the prevention of heart disease they do not seem to be concerned primarily with the etiologic background of the disease, for there is very little they can do in this direction. Some of the companies do distribute literature attempting to interest the public in prevention.

They do often prevent cardiac breakdown. After making a complete examination of their clients they will release their recommendations with their complete work-ups (under the patient's signature) to ethical physicians. The value of this procedure is that a great many individuals are given complete technical examinations which form an important baseline in their future care. The companies are making every effort to coöperate with the doctors in the care of the patient.

The second effort toward prevention of heart disease that the large companies are making is their work in establishing so-called normals in electrocardiograms, in measurement of the heart, and they have done considerable work in establishing normal blood pressure measurements. It is exceedingly difficult to work out such points without having the opportunity to examine a very large number of people of all ages.

The third manner in which insurance companies are effective in the campaign for the prevention of heart disease is the valuable long-range view they get of the patient's health, as they have probably a more accurate follow-up of their examinations than obtained in any other field of medical work. So in the course of time they will have accurate statistical data which will certainly be a help in the difficult question of the prevention of heart disease.

Another interesting fact regarding prevention of heart disease is that some of the insurance companies have abandoned the periodic health examination. They feel very strongly that this is a job for the physician although they did for a while enter this field as a form of preventive medicine.

A speculative angle on the question of prevention in relation to insurance companies is the consideration of the disability that may be due to heart disease. A certain amount of progressive heart disease might possibly be prevented if partial disability were allowed, for it is safe to venture the idea that many people do better when allowed to continue on their routine work. This idea was recently voiced by a man who had coronary thrombosis. He is most comfortable while he is working and yet would be a great deal more comfortable if he felt that he did not have to work at full speed or intensity. He is swayed

between giving up business completely and collecting his disability allowance — or continuing his business. He forcefully drives home his point. He says: "If the insurance companies would only give partial disability! For instance, a man with a heart condition could break in another to replace him on an important job. He could then very well do part of his work and not have to claim so much disability insurance. The insurance companies too would be ahead of the game. Complete disability is wrong." And it would seem wise to give this particular man partial disability income — to which he is certainly entitled — thereby preventing probable progressive cardiac deterioration, and in turn prolonging his life.

The International Aspects of Heart Disease and Prevention: Finally when considering the prevention of heart disease it is only natural to scan what is going on with regard to this question in other parts of the world.

Disease can no longer be considered regional in its occurrence nor in its prevention. This is as true of heart disease as of the common cold. No wide study has been pursued by the writer with regard to the question of prevention of heart disease throughout the world. Obviously it is a fortunate fact that the world now being so closely related by modern communications, it follows that any educational program is almost automatically international. We must consider in a sense the prevention of heart disease without limitation of geography, time or space, for only then is it consonant with modern progress.

A small personal contribution to the study of heart disease from this standpoint has consisted of writing to distant parts of the world concerning one aspect of heart disease and prevention, that of the occurrence of coronary artery disease, more particularly in the latitude of the tropics. This inquiry has resulted in letters from the West Indies, the Phillipines, South America, Central America, the Bahamas, Syria, Africa, China, Korea, Siam, Hong Kong, Ceylon, the Malay Peninsula, India, Ethiopia and England.

The conclusions with regard to these letters from doctors in different parts of the world is just about what would be expected. In most of these countries there is no satisfactory means of obtaining statistics. Then too men in those parts of the world are not in any sense of the word "coronary conscious" as we are.

Due to the superstition or ignorance of the natives there is little or no autopsy material to be obtained. In addition, many times the modern equipment for diagnosis, so widely possessed in the more densely inhabited parts of the globe, is lacking.

There were a great many interesting sidelights in these replies concerning the question of prevention. One of the Foundations working in Central America feels that heart disease is not there a public health question, such as intestinal diseases or malaria, and consequently there is little opportunity to study hospital cases or to make clinical observations on conditions such as coronary disease.

In a more comprehensive report noted in a book, "A Geography of Disease" by Earl Baldwin McKinley, M. D., he concludes after a careful survey of the tropics, that tropical diseases cannot be defined in a geographical sense, but that the term "disease of the tropics" is used just the same while in reality covering a wider area than that circumscribed by the tropics of Cancer and Capricorn. For instance, many diseases ordinarily thought to be peculiar to temperate zone countries are often found to be present in the tropics and to be an important health problem.

In many of the regions considered in this correspondence the prevention of heart disease concerns itself with the prevention of syphilis. Rheumatic heart disease, as observed here, is relatively rare there. So this problem of prevention is not in the foreground. One gains the impression that in the tropics hypertension is less common and also of not much medical interest. Finally coronary artery disease seems to be more common where the American lives and pursues the type of existence that he follows at home.

Physicians have always been interested in the question of climate with relation to prevention and treatment of heart disease, and such an inquiry as this shows no abatement in a desire for comparison of knowledge on this subject.

A further thought on the question of the occurrence and prevention of coronary artery disease in the tropics is the fact that one receives from such a correspondence the impression that it occurs more and more often in places where the tempo of living is fast, and also too where the population is greater per square mile of area. The increasing use of machines, together with the speed with which the natives in the tropics will probably live in the future, may change our picture so that climate warm or cold may be estimated at its true value in prevention of heart disease.

Another point regarding coronary disease in the tropics is that the span of life is usually short, and people do not usually reach the age when coronary heart disease develops in the natural course of events.

In general it would seem that the fatalistic outlook of a more primitive social atmosphere, where contentment is praised as much as ambition and where all the relations of life are by custom almost interchangeable, contributes to a life without tension, and a life, incidentally, without much heart disease!

A very charming result of this correspondence has been the contact with physicians all over the world who were ready to give all their information and contributions for progress as an aid to the prevention of heart disease. They went to a tremendous length to send as many statistics as they could, and to give their honest opinions on the question.

SYPHILIS OF THE CARDIOVASCULAR SYSTEM*

By C. G. WILLIS, M. D.
Huntington, W. Va.

IT IS fairly well proven that syphilis became widespread just after the return of Columbus from America. At this time it was called the "new disease." Whether it was really contracted from the Indians on this side of the Atlantic or was spread through some other contact is not entirely established as a fact, but otherwise its happening at such a time would be a rather remarkable coincidence.

The association of aneurysm with syphilis was recognized almost as soon as the disease itself became widespread. To quote from Sir Humphrey Rollyson, "The traumatic and superficial aneurysm was that mainly seen until syphilis became widespread after the return in 1493 of Columbus from the New World and the occupation of Naples by the army of Charles VIII in 1495. There was then what has been called an unprecedented occurrence of aortic aneurysm. The association with syphilis did not escape Fernelius, who is 1542 first recognized internal aneurysm, Vesalius who in about 1557 diagnosed both thoracic and abdominal aneurysms, and Ambrose Pare in 1582 who incriminated mercurial treatment as the cause of aneurysm." Welch writing in 1876 blamed syphilis as the cause of 60 per cent of aneurysms occurring in the British army. He also described aortic nodulation as present in two-thirds of his postmortem examinations of men who had had syphilis. It is rather remarkable however, that Corrigan in 1882 wrote a masterly paper entitled, "Permanent Patency of the Mouth of the Aorta, or Inadequacy of the Aortic Valves," in which he did not mention syphilis as a possible cause although he stated

*Read before the West Virginia State Medical Association, General Scientific Session, Clarksburg, May 20, 1937.

clearly that the aortic valves may leak by reason of dilatation of the aorta itself.

The last twenty-five years have produced a large accumulation of literature, due probably to more exact methods of diagnosis and treatment and as a general health problem.

That there is considerable discrepancy between the clinical percentage of cardiovascular disease due to syphilis and the percentage coming from the autopsy table is not strange. It is rather difficult to diagnose cardiovascular disease definitely without some study. No doubt many cases are labeled syphilis that in reality are not, and vice versa. On the other hand the victim of cardiovascular disease, syphilitic in origin is liable to sudden death. Such cases are often picked up and taken to some coroner where postmortem reveals the true cause.

The frequency of cardiovascular syphilis may be summed up by saying that when we are confronted by an organic lesion of the heart there is a chance of it being syphilitic, which varies from five to fifteen percent in different parts of the world. Vascular lesions in the presence of known syphilitic infection are almost three times as great in the negro as in the white race, but the incidence of the disease is four times as great in the negro as in the white man. Some writers express the belief that syphilis of the heart is rare in cases which show open lesions and that vascular as well as central nervous syphilis is infrequent in tropical countries.

Cardiovascular syphilis is greatly preponderant in the male. This is expected as the incidence of syphilis generally is much greater in men. Figures show about 75 per cent in favor of the male. It is a well known fact that men are more liable to infection and the more liable one is to syphilis the more liable he is to syphilis of his circulatory system. In all the records I have been able to review, the greatest number of cases occurs between the ages of 30 and 60. In one series of 52 cases the average age at which symptoms were first experienced was 49.6; we might say about the cancer age.

As in locomotor ataxia and general paresis, the interval between infection and the onset of cardiovascular symptoms is as long, if anything, slightly longer than in the nervous manifestations. There is indeed quite a similarity in age and in this latent period. We would naturally expect an earlier outcry on the part of the nervous system as it is always a more senstive index of disease. The latent period is on an average of from 15 to 25 years, although I reviewed one case that became infected, had an aneurysm and died in one year. In one series of 100 cases at Johns Hopkins this period ran from three to thirty-nine years with an average age of 15 years and six months. Another series had an average of 22.7 years. Why an individual, apparently well, may suddenly be brought down with a disease he has harbored all these years is a problem yet unsolved. This question might also be asked in regard to syphilis of the central nervous system. The most plausible theory, I believe, is the fact that the virus is able to affect the vascular system at an age when it is beginning to show wear and tear. To make this supposition slightly more binding we have the evidence that syphilitic, atheromatous and arteriosclerotic changes are usually intermingled.

The most constant and striking pathology is found in the walls of the aorta which is surrounded by syphilitically inflamed lymphatics. Here we find the syphilitic process beginning from the outside following the vasa vasorum through the adventitia into the media where it may practically destroy this layer of the arterial wall by dissolving and breaking up the elastic tissue. While this is going on the intima is becoming thicker to compensate for the lack of support of its elastic bedding. As soon as the middle coat is sufficiently destroyed and if the inner coat is unable to stand the strain imposed by the blood pressure, we see the mechanism for the production of an aneurysm. The intima is thickened, but having lost the buttressing effect of the media it gives away allowing sacculation. The thickened intima may under-

go changes, producing a kind of atheroma yet quite different from that seen in senile or degenerative arterial change which begins in the intima and leaves the other coats untouched. The same changes are taking place in the vasa vasorum, although some writers describe this as an endoarteritis.

The pathologic process usually begins at the root of the aorta and encircles it. From here it may fade into normal tissue a short distance above and, as a rule, does not pass down into the ventricular wall. In this position the process involves two very vital structures, the coronary mouths and the aortic semilunar valves. With the coronary vessels the disease seems to spend itself at their mouths where there is a marked narrowing, sometimes occlusion. This is due to an intense inflammation in the aortic wall which leads to fibrosis around the orifice where they are nipped in a tightening strangle hold. The commissures between the cusps of the semilunar valves are seen to be swollen, this swelling spreads to the adjacent cusps themselves, which thus become stiffened and shortened, rendering them inadequate. In this condition they may become adherent to each other or to the arterial wall. Thus we have an inflammation which strikes the aorta from without, invades and breaks down the middle elastic coat, then spreading downward to the heart until it stops at the sigmoid portion where it strangles the coronaries and ties down the aortic valves. A striking thing is the fact that coronaries are only affected at their mouths as they lie in the aortic wall. In persons over 50 years of age changes are often noted in the course of the vessel, but these are atheromatous and from their character of beginning in the intima, can be differentiated from syphilis. This is a noteworthy thing and is commented upon by many writers.

The heart wall is not usually affected beyond evidence of malnutrition of the muscle cells and some increase in the connective tissue planes. Gummata are reported sometimes, but this is infrequent however. The bundle is rarely the seat of syphilitic infection. May I say here that auricular fibrillation and severe cardiac irregularities are not seen often in this disease. It is hard to see how a disease that does so much damage in the aorta should do so little beyond these mild changes in the heart. The force of the storm seems to spend itself at the root of the main vessel.

The pain so often noted in the syphilitic under the sternum may be accounted for by the blockage of the mouths of the coronaries. The sucking action of the heart wall in systole and diastole normally helps to draw a full supply of blood into these vessels which is passed on to the rich capillary network supplying the heart muscle. But if there is marked constriction of the inlets as often happens, the supply will have to be obtained through the thebesian circulation or there may be a sudden cessation of the whole mechanism, which is the end of many of the victims of this disease.

So here we have a musculature weakened by malnutrition, but that is not the worst; the aortic opening is the seat of a regurgitation thus increasing the work of the muscle. Couple this with a loss in elasticity in the arterial wall and possibly an aneurysm, and it will be hard to see how a more malignant and deadly agent could be devised to bring its victims to an end.

The symptomatology is obviously that of organic heart disease plus the general signs of syphilis. Early indications are weakness, fainting, and sometimes if there is narrowing of the coronaries' mouths a sensation of "misery in the chest." There is cough and shortness of breath on slight exertion. The painful attacks may be paroxysmal, may come on abruptly in the most stormy fashion, lasting from a few minutes to half an hour, and finally subsiding quite rapidly, leaving the patient in a state of exhaustion. These attacks are more liable to appear at night as is usually the case with most subjective symptoms of

syphilis. Dyspnea is a rather important symptom and it is also more often felt at night.

A to and fro murmur loudest over the aortic orifice will, in a majority of the cases, be heard. This is due to relaxation of the aortic ring. One of my cases came in complaining of a "noise" in his chest, which could be heard three feet from his body without the aid of a stethoscope. Such is however not a frequent occurrence. Sometimes mitral murmurs are heard but they are infrequent. A Corrigan or water hammer pulse, may be present if the disease is far advanced. Cardiac irregularities and fibrillations are not often seen. The blood pressure may be high, but this is not a distinctive feature, although there is usually a wide pulse pressure after the aortic ring has begun to relax.

Hypertrophy of the heart is a significant index of the degree of cardiac involvement. This sign is absent in the latent stage of the disease, but becomes increasingly important as signs of cardiac involvement appear. The two important causes of hypertrophy are aortic regurgitation and hypertension which later is a frequent occurrence in this type of case. This can usually, but not always, be demonstrated by physical examination. The x-ray is of little value in diagnosis except in determining the presence of an aneurysm and the size of the heart.

The general opinion among pediatricians is that syphilis of the cardiovascular system is practically unknown in children. I note that some writers have made a diagnosis of syphilis of the heart in children by obtaining the causative agent from the heart or structures around it. This I think, is incorrect. The finding of the spirochete pallida in a structure is not enough to incriminate that part as being the seat of a special focus, but is evidence only of a widespread general infection.

There are certain factors which may precipitate a cardiac breakdown in the presence of a general syphilitic infection, such as arteriosclerosis, arterial hypertension, alcoholism, diabetes and acute rheumatic fever. The latter is frequently a factor in a circulatory collapse, the two being rather frequently associated.

Through the literature it is noted that the laboring man is so often affected. This is probably due to the severity of his work or to the fact that he has not taken proper treatment at the time of infection. Could it be due to the fact that he is, as a rule, taken care of in some clinic where he becomes the subject for study?

The location of aneurysms due to syphilis is interesting. About 88 per cent of all aneurysms occurring in the ascending aorta are syphilitic in origin, about 70 per cent occurring in the transverse aorta are syphilitic, but the descending and abdominal segments show about 50 per cent and 30 per cent due to the treponema.

One of the important points in the diagnosis of this disease is to realize that syphilis may be a diagnosis. When a well developed man who has been able to carry on without discomfort begins to show signs of cardiac breakdown, and if he does not have a history of rheumatism or other infection, this is in part, the picture of one who may be having a break due to syphilis. As in every other disease a careful history is the most important part of a diagnosis. This should attempt to develop possible primary infection, because the diagnosis of syphilis must not be discarded because of a negative Wassermann. There will be few cases under 30 years of age, and about five or six to one will be in the male sex. According to Reid and others the electrocardiographic findings are only indicative of a heart disease and do not in any way give a clue to the cause. The Wassermann reaction is, of course, our mainstay in diagnosis. However it may be negative in around 20 per cent of the cases. Also it may be positive and still the cardiac break be due to rheumatism or other infection. A spinal fluid Wassermann if positive does not prove the presence of cardiovascular syphilis, if negative it does not disprove it. I can not see that much value can be gained in a diagnosis from this source.

To treat intensively, moderately or not at all is the question. Proper treatment may mean many months or even years of active life. On the other hand improperly treated cases may make a quick exit. Too energetic treatment may cause a temporary improvement followed by aggravation of symptoms and, in some cases, death. This has been ascribed to too rapid resolution of the syphilitic lesion with replacement by scar tissue formation. If this happens at the mouth of a coronary we may have a strangulation before any compensatory mechanism can come into play and a fatal outcome will ensue.

It is surely possible that we have been too free in giving the arsenicals which have come into use in the past 20 years. When lues was treated with mercury and potassium iodide results were quite good. One thing which must not be lost sight of is that rest, diet and digitalis are measures that have always been used in the treatment of heart disease.

Well compensated cases that have had energetic treatment should probably be let alone. Those cases that have had adequate treatment but show decompensation should not be treated from an antiluetic standpoint but with digitalis. Asymptomatic cardiovascular disease without adequate treatment should be treated judiciously, and the proper amount of treatment, if this can be ascertained, will keep this patient in his present state of health and cardiac dysfunction will be definitely postponed.

The best results reported in those cases of beginning break are rest and digitalis, followed by mercury or bismuth and iodide for one to two months. Then small doses of neosalvarsan over a long period, never attempting to get a negative Wassermann because this reaction probably will never become negative no matter how much treatment is given. With this plan some cases will continue in a fair state of health for as much as five years or longer, and some may even be able to follow their regular occupation.

I feel that untreated cases who show signs of a break in circulation, or have a congestive failure or aneurysm, should be treated as cardiacs with rest and digitalis, and as syphilitics carefully and adequately with iodide and a heavy metal and neoarsphenamine in small doses. It has been shown that those cases with pain get a lasting relief soon after antisyphilitic treatment is begun. The average span of life is not usually more than two and a half years after symptoms begin. It is vastly better in those who have received adequate and judicious treatment.

BIBLIOGRAPHY

Coombs, Carey F.: *Syphilis of the Heart and Great Vessels;* Lancet, August 2, 9 and 16, 1930.
Connor, Lewis A.: J. A. M. A., February 24, 1934.
Carr, James A.: American Heart Journal, October, 1930.
Wile, U. J.: American Heart Journal, October, 1930.
Reid, Wm. J.: American Heart Journal, October, 1930.
Bishop, L. F. and Bishop, L. F., Jr.: New York State Journal of Medicine, November, 1931.
Galcherman and Wilhelm: American Journal of Syphilis, July, 1936.
Willius, Frederick A., Jr.: Journal of the Tennessee State Medical Association, December, 1934.
Hazen, H. H.: American Journal of Syphilis, May, 1932.
Barnett, C. W.: Archives of Dermatology and Syphilology, July, 1933.

ERROR IN HEALTH PROGRAM

Those who chase health the hardest find it the least, declares Dr. Thurman B. Rice in his article "The Health Chaser" in the September issue of *Hygeia.*

The most fundamental error in the modern health program lies in the fact that it tends strongly to make people introversive and introspective. We like people who are interested in us, in other people and in other things. The chap who is interested only in himself can hardly expect other persons to be interested in him—except as a pathetic specimen of introversion.

It is necessary, to be sure, that we shall give our bodies elemental care, but that doesn't take long. A few minutes a day or at most an hour or so a day should be enough.

Health is an elusive thing which is more likely to come to you when you are pursuing something else than it is to be captured by a direct attack. It is a by-product of sane and purposeful living. It is the paradox of life that there is nothing so dangerous as being absolutely safe, nothing so unhealthful as having consideration for nothing save one's own health, and no one so unhappy as he or she who seeks nothing but his or her own selfish happiness.

A VACUUM BOTTLE FOR INFUSIONS AND HYPODERMOCLYSIS

By CHAUNCEY B. WRIGHT, M. D.
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THE purpose of this paper is to describe a vacuum bottle which will hold the temperature of a solution at a more constant level than the ordinary glass bottle when giving an infusion, hypodermoclysis or rectal drip.

The average rate of subcontinuous administration of fluid is approximately 500 c.c. each thirty minutes. Fantus[1] suggests that in giving 10 per cent glucose solution intravenously, the rate should be so arranged as to consume one hour in the introduction of 500 c.c.

Recently Wood[2] has described an apparatus for giving a continuous administration of fluids for twenty-four hours with no particular attention to the maintenance of a constant temperature of the solution to be used.

With the ordinary glass container, which is now in general use, even though surrounded by hot water bottles, it appears doubtful whether the solution is kept at a constant temperature.

In Table #1, in a series of temperature readings, there is a comparison of normal solution in the vacuum bottle as compared with the same amount of solution in the ordinary glass bottle. No top was attached to either bottle and neither bottle was preheated.

In Table #2, a similar comparison is made with cotton used to cover the top of the bottle.

It is evident that, in the administration of fluids over a long period of time by the use of the vacuum bottle, the temperature will tend to be more constant and there will be less cause for any reaction upon the patient.

The vacuum bottle can be autoclaved or boiled without cracking. Ordinary glass is used in the construction, although pyrex glass, which is more resistant to both mechanical and chemical attacks, could be used.

According to Elser and Stillman[3], who have recently investigated all factors in the preparation and administration of dextrose solution, the use of soft glass has certain theoretical advantages because the alkali which is given off would tend to neutralize the acidity of the dextrose solution that develops on standing. On the other hand, these men state that caramelization proceeds more rapidly in solutions that have been neutralized and this may be regarded as a disadvantage.

TABLE #1—ROOM TEMPERATURE 27°

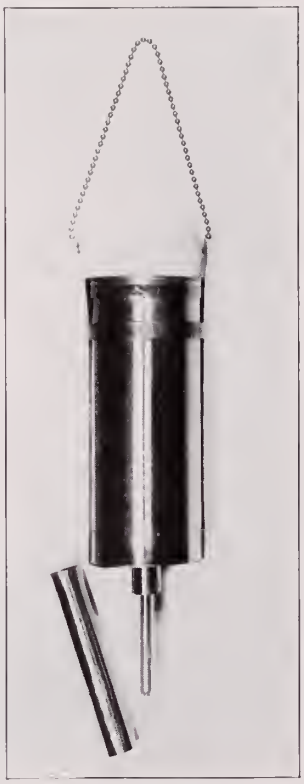
Vacuum—40.5° C	
15 minutes	39.5°
1 hour	38.5°
2 hours	36°
3 hours	34°
4 hours	32.8°
5 hours	31.2°
6 hours	30.5°
7½ hours	29°
Ordinary Glass Container—40.5° C	
15 minutes	33.5°
1 hour	27°

TABLE #2—ROOM TEMPERATURE 26°

Vacuum—40° C	
30 minutes	40°
1¼ hour	39.9°
2½ hours	38.9°
4 hours	38.5°
7½ hours	37.5°
Ordinary Glass Container—40° C	
30 minutes	33°
1¼ hours	31.2°
2½ hours	27.8°
4 hours	27.6°

The vacuum bottle, shown in the drawing, consists of a double wall cylindrical glass jar

and a long cylindrical outlet tube; the inner and outer walls of the jar being sealed together at the top, and the walls of the outlet tube sealed together at the bottom, leaving a space of approximately one quarter of an inch between the walls. During manufacture, the exhaust tube is sealed to the bottom of the outer jar, and through this tube the silvering solution is introduced. This silvering solution deposits a uniform metallic coating of pure silver on the glass, both on the outer side of the inner jar, and on the inner side of the outer jar. This silver coating forms a mirror with excellent reflectivity for heat and light rays. The coefficient of reflection of a clean silvered surface for infra-red or thermal rays ranges from 97 to 99 per cent, according to the wave length. As the coefficient of absorption is the complement of the coefficient of reflection, it will be seen that it represents only one to three per cent of the incident radiations on the silvered surface. A glass surface, on the other hand, would have a coefficient of reflection of about 10 per cent, and a coefficient of absorption of about 90 per cent for thermal rays; glass being opaque to all the longer infra - red rays such as are emitted by bodies of a temperature of 100° C to 200° C.



Vacuum Bottle

In order to take advantage of the above characteristics of a silvered surface, the air must be exhausted from the space between the silvered walls to reduce the conduction of heat from one wall to the other to a minimum. For this purpose, the bottle is placed in an oven and the temperature raised to approximately 350° C, while the exhaust tube is connected to a vacuum pump. The high temperature drives off all the air and moisture which would otherwise adhere to the walls. Then the exhaust tube is sealed off from the pump by fusing the walls together, thus leaving a high vacuum in the jacket. Heat leakage is practically reduced to radiation between the walls of the jacket and the small amount of conduction through the glass walls at the seal at the top and bottom of the jar. In the vacuum bottle, the inner jacket assumes the temperature of the liquid within the bulb, the outer bulb the temperature of the atmosphere. It is apparent that the silvered surface of the warm inner will radiate a small amount of heat, and that the outer will absorb only a small portion of this, reflecting most of the rays back to the inner bulb. Thus, the loss of heat from any object takes place in three ways: (1) through radiation; (2) through conduction; (3) through convection; and in the vacuum bottle, these three elements are reduced to the absolute minimum. Therefore, by making use of this principle, the vacuum bottle has been constructed to allow a liquid to be maintained at an approximately uniform temperature for a long period of time.

The author is indebted to Mr. Charles O. Duevel, Jr., Mr. George C. Anthon and Mr. Clarence Hartley of the American Thermos Bottle Company for the construction of the vacuum bottle.

REFERENCES

1. Bernard Fantus: *Technique of Medication*, Press of the American Medical Association, 1926, p. 250.

2. Ian J. Wood: *The Technique of Continuous Administration of Glucose and Saline Solutions and Blood*, Medical Journal of Australia, 2:843, December 19, 1936.

3. W. J. Elser and G. Stillman: *Preparation of Dextrose Solution for Intravenous Administration*, American Journal of Clinical Pathology, May 7, 1937.

INFANT'S OCCASIONAL EATING

A child's refusal to eat needs recognition and attention only when an appreciable loss in weight is noted, declares Dr. Herman M. Jahr in "Bad Habits in Good Babies" in the September *Hygeia*.

CHILDHOOD APPENDICITIS

By THERESA O. SNAITH, M. D.
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THIS paper is prompted by the number of appendicitis cases seen in young children, many of which have advanced to perforation and peritonitis. It is a review of the literature and a series of case histories, and is a plea for the early recognition and treatment of a disease which is highly fatal in childhood.

These children are seldom seen early by a surgeon, so the burden of diagnosis is upon the medical attendant and the responsibility of the outcome is his.

The death rate in appendicitis has not decreased since the day of Murphy despite improved technique. Two-thirds of the mortality occurs in those under twelve and over forty, although only about one-third the cases occur in this age group. The mortality in children is three times that of adults.

Separating appendicitis into three groups, the first being acute unruptured appendicitis, the second acute ruptured with localization of peritonitis or definite abscess formation, and the third ruptured without localization of peritonitis, it is found that the mortality in adults and children is approximately the same in the first two groups, whereas in the third group the mortality for children is doubled. This would indicate that the high mortality in children is due to a lower resistance to peritoneal involvement. This fact makes early diagnosis of childhood appendicitis imperative because the course of the disease in the child is rapid, quickly progressing to perforation. This is particularly true in those cases which give a history of previous attacks. General peritonitis is more likely to occur in the child, because of the relatively longer appendix, and the shorter, thin omentum, which does not furnish the protection to the child that it does to the adult.

No period of life is entirely free from appendicitis, and in children after the first year of life it is the most frequent surgical condition arising within the abdomen.

In a group of 200 cases of appendicitis in all ages, 45 cases occurred in children under twelve. Of these, ten were in children under five years of age of which five were suppurative, three ruptured, and one gangrenous; fifteen were in children between five and ten years with eleven cases suppurative, five ruptured, and one gangrenous. Twenty cases were in children between 10 and 12. Ten were suppurative, six ruptured. The youngest case in this group was a 23 months old girl; however, there are on record cases of prenatal appendicitis, the evidence of which was seen at autopsy in infants dying within a few hours following birth, and cases have been reported in nursing infants. In 1917, Abt collected 70 cases in children under two years. Of these, 20 were in infants under three months, six between three and six months, 11 between six and 12 months, and 33 in the second year. Similar series have been reported by others, all of which give a high mortality in the first two years of life. Males are more frequently attacked than females.

The exact etiology of appendicitis is still in doubt, but various facts explain the age incidence in childhood. 1. The relative amount of lymphoid tissue in the appendix varies at different periods of life. 2. The toxicity of the intestinal flora alters as the child grows older. The colon bacillus often being the offender, in the infant has relatively low virulence which increases with age due to the increasing complexity of the diet. 3. Gastroenteric infection, primary and secondary to upper respiratory infection and carious teeth, undoubtedly is a factor in etiology.

The symptoms of appendicitis in children are those which are seen in adults, but because gastrointestinal symptoms so frequently dominate the picture in childhood illness, they often are not given proper valuation.

Pain is the earliest symptom. It may be epigastric, umbilical or generalized, and is cramping in character. It is in the generalized type that most often the usual disastrous laxative is given. The onset, whatever the location, is usually severe, becoming more pronounced and paroxysmal, later localizing. Pain is present in almost every case and in its absence, a diagnosis of appendicitis is scarcely justified. Pain beginning as a localized right side pain is likely to be due to some other cause than appendicitis.

Next important symptoms are nausea and vomiting which follow pain, and occur in the large majority of cases—(80 per cent), nausea alone being slightly more common than nausea accompanied by vomiting. The absence of nausea and vomiting is strong presumptive evidence against appendicitis, but should not eliminate the possibility. Nausea and vomiting preceding pain is evidence against appendicitis. Continued vomiting usually indicates peritoneal involvement, as the tendency is for vomiting to subside.

Localized tenderness and rigidity are usually present in older children, and may be elicited in younger children on repeated examination, but seldom are these symptoms commensurate with the underlying pathology as in the adult, and their presence is largely dependent upon the position of the appendix, which in children very frequently is not typical. The absence of localized tenderness and rigidity in a large proportion of cases, some writers say as high as 50 per cent, is probably one of the chief reasons for undiagnosed childhood appendicitis.

The acceleration of the pulse rate out of proportion to the fever, which rarely is high, is a reliable sign, and more constant than temperature elevation.

In the child, particularly a young child, an attack of diarrhea may immediately precede the onset of the appendicitis. This symptom is in contrast to constipation or normal bowel action in the older child and the adult.

The presence in the urine of acetone is considered a reliable sign, as in appendicitis acetone appears early and is out of proportion to the vomiting which has occurred.

In typical acute appendicitis, the child usually is seen lying supine with one or both thighs and legs flexed. If standing, the body bends forward, and the right leg is held in a position of flexion. The respiration is thoracic and there is the odor of acetone on the breath. There are many departures from this picture and too seldom are the cases typical.

The differential diagnosis of appendicitis in children is simpler than in the adult because ther are fewer conditions to eliminate, but the ultimate diagnosis is more difficult because of failure to obtain adequate history and physical findings.

Childhood appendicitis is seldom entirely typical in its onset, and may be ushered in with pneumonia like symptoms of high fever, rapid pulse and respiration, with urinary symptoms predominant, or with diarrhea, and probably most misleading are those cases which begin following dietary indiscretions. In children the constitutional reaction may be so marked as to overshadow the abdominal symptoms, and an appendix in abnormal position adds to the confusion of the picture. The child obscures his symptoms by his conduct, he does not stop playing until discomfort is very acute, and resumes as soon as he is better, playing until the next paroxysm of pain comes. Often the illness has not been sufficiently alarming that the sequence of events is very clear in the mother's mind. It is necessary to approach the child with tact, and that time be given for repeated examinations. A rectal examination gives valuable aid and should be done in all questionable cases. Tenderness and rigidity are less frequent than in adults, but often can be elicited with satisfaction by rectal if not by abdominal palpation, if sufficient time is taken to overcome the resistance of the child to examination. The presence of

tenderness and rigidity is largely dependent on the position of the appendix. The diagnosis of appendicitis should be made regardless of the location of pain or the absence of tenderness if other symptoms are present.

The presence of high fever and extreme leukocytosis rules out simple appendicitis, for in those cases where fever and leukocytosis are higher, the appendix has ruptured or an abscess exists, and the physical findings make the diagnosis. It must be kept in mind that the child's neutrophil count is normally less than the adult, and may be considerably increased without exceeding a normal adult value. Recently attention has been called to the increase in non-filamented neutrophils with a non-filamented cell ratio exceeding one as a valuable diagnostic aid, when considered with the total and neutrophil counts. It is of prognostic value, an initial high non-filamented count, signifying a poor outlook.

Whether or not chronic appendicitis exists in the child is a disputed point. Certainly many of the acute cases give a history of previous similar attacks.

Pneumonia and diaphragmatic pleurisy particularly when right-sided, probably give the greatest difficulty in diagnosis. A careful analysis of symptoms and physical findings will usually make the diagnosis, the greater constitutional reaction, rapid respiration, high fever and leukocytosis all point to the illness as being respiratory. If there remains doubt, x-ray is helpful in revealing a concealed pneumonia.

Retroperitoneal adenitis, responsible for the abdominal pain which frequently accompanies or follows acute throat infections presents a diagnostic problem. Vomiting usually does not occur in this type of pain, and the pain remains a generalized abdominal discomfort in contrast to the colicy character of appendiceal pain.

In pyelitis the differential diagnosis lies in the higher fever, and urinalysis, which discloses clumped pus cells.

Psoas abscess may be confusing, but the absence of gastrointestinal symptoms and a slow onset should clear up the diagnosis.

Intussusception and other forms of intestinal obstruction may offer difficulties of diagnosis, but as these conditions demand early operation, the differential diagnosis is not so important.

The most frequent and difficult diagnosis is from the indefinite gastrointestinal disturbances to which, particularly, young children are so prone and the diagnosis depends upon a careful evaluation of all findings.

Cyclic vomiting may be suggestive of appendicitis and is one of the conditions in which differential diagnosis is most important. In this condition, vomiting is the outstanding symptom, and is almost constant; there is little pain, and no fever until there is dehydration; the blood picture is of assistance; the differential count remaining normal, although the dehydration causes an increased total leukocyte count.

Stone in the ureter causes more prominent urinary symptoms than the frequent micturition often seen in appendicitis. Urinary findings, the absence of muscle spasm, fever and leukocytosis make the diagnosis.

Allergy is a frequent cause of abdominal pain, but probably is seldom confused with appendicitis.

The following cases illustrate diagnostic difficulties encountered in childhood appendicitis:

Case I: A three and a half year old girl was seen because of asthmatic bronchitis and abdominal pain. Past history was negative except for susceptibility to respiratory infections which were invariably complicated by asthmatic bronchitis. There had never been accompanying gastrointestinal symptoms, and the child had always been entirely free of any digestive disturbance. The child had been in bed for one week because of cold, followed by asthmatic bronchitis. On the fifth day of the illness she complained of stomach ache and nausea; later there was vomiting. These symptoms were attributed

to medicine which was being taken, and the child was given a laxative. Pain continued at intervals throughout the next forty-eight hours. There was nausea with desire to vomit but no vomiting occurred after the first twelve hours. The child was seen for the first time at the end of forty-eight hours. She was sitting up in bed, acutely uncomfortable because of her respiratory disturbance; respirations were rapid, excursions limited; rectal temperature was 104°. At this time the child was having no abdominal pain but complained of nausea; slight tenderness was elicited in the lower right quadrant after repeated examinations, and there was moderate rigidity. The asthma, despite the history of abdominal symptoms dominated the picture of this child's illness.

At operation an acutely inflamed and distended appendix was removed. There was an uneventful recovery.

Case II: A three year old girl was seen complaining of pain under the left costal margin. There was history of cold and cough, with fever of several days' duration. The child had complained of stomach ache on the day before, and again on this day, and had refused her evening meal. However, the complaint of stomach ache had received so little attention that the history was gained only on close questioning of the mother.

The child was first seen standing with her body stooped to the left, her hands covering the point of pain which was under the left costal margin. She appeared acutely ill; her temperature was 103½°, respirations were 45 per minute; there was present a nasopharyngitis; râles were heard throughout both lungs, but no consolidation was apparent; the abdomen was tense, and there was tenderness throughout, which was slightly more marked in the upper left quadrant. Leukocyte count was 15,000 with polynuclears increased to 76 per cent. Laparotomy was decided upon because it was felt that a surgical abdomen could not be eliminated. At operation there was found a suppurative appendix which was very long, and lay diagonally across the abdominal cavity, the tip pointing upward toward the costal margin. Patient made an uneventful recovery.

Any case of abdominal pain with or without other symptoms should be considered as potential appendicitis until a diagnosis is established. In making a differential diagnosis when doubt still exists after all efforts have been exhausted for diagnosis, laparotomy is the only safe procedure as an abdomen opened even in a pneumonia does less damage than an appendix left to rupture.

This quotation is from the English surgeon Bastianelli who is spoken of as a "conservative surgeon": "When physicians are discussing whether the case is appendicitis or not, it is. When they are inclined to admit the possibility of appendicitis without being perfectly sure of it, it not only is, but is about to perforate. When the diagnosis is sure, there is already perforation with more or less circumscribed peritonitis." With this attitude of mind surely many cases which are diagnosed as gastroenteritis and "intestinal flu" would come to earlier operation and a happier outcome.

ADOLESCENT CONFUSION

Confusion surrounds the adolescent in all that he does, in the attitude he sees reflected in his parents' actions and in what he considers his own status, according to Dr. Frank Howard Richardson, author of "Adolescence" appearing in the September *Hygeia.*

The adolescent has previously been a child, with a child's strictly limited environment and a child's unquestioning obedience to the commands of his elders. During the transition from this stage to that of complete independence, no one quiet knows how much to order him about and how much to leave him alone.

One of the worst aspects of this situation from the point of view of his parents is that there is no set of rules by which to govern the confusion that arises. If the parents are to be fair to their adolescent children and give them the guidance to which they are entitled, they must be treated as individuals, differing widely from one another in the uneven way in which they are developing, even though they may be of the same chronological age.

COMPLICATIONS OF PEPTIC ULCER*

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IN THESE remarks I have in mind neither an exhaustive analysis of the complications nor any hitherto unrecognized facts concerning peptic ulcer. It is rather my purpose to call attention to a few events in the life history of the disease which the physician, facing this problem, should keep before him.

Autopsy statistics indicate that one out of every ten individuals has, at some time in his life, ulcer of the stomach or duodenum.[1] Since absolute prevention of this disease is, as yet, impossible, complications are to be expected from those ulcers which cannot heal. In spite of admirable investigations, both in the experimental and clinical aspects of peptic ulcer, our knowledge rests fundamentally upon the classical observations made by Cruveilhier a century and a half ago. Although the best control of a given morbid process usually is not achieved until the complete cause of that disease is understood, much can be done in the meanwhile by directing therapeutic efforts toward certain known physiological principles related thereto.

Careful history taking will detect ninety per cent of ulcers. Furthermore, the existence and gravity of one or more complications often can be determined by strictly bedside medicine. The fluoroscopic findings, while indispensable for confirmation, cannot replace intelligent diagnostic efforts of the doctor.

Complications arising from peptic ulcer depend largely upon three factors: 1. There has been, usually, a lack of proper management. A chronic ulcer requires *peptic* digestion, implying an adequate amount of hydrochloric acid, for its existence. It is an incontrovertible fact that the lesion occurs only in that part of the alimentary tract bathed by gastric juice.[2 3 4 5 6] Hence, an effort must be made to protect the ulcer from such corrosive action. The selection of a method for the limitation of peptic digestion for the greater part of 24 hours is less important than the thoroughness with which the physician and patient apply that method.

2. The location, size and chronicity of the individual ulcer help to determine the complication. An ulcer adjacent to the pylorus can increase the emptying time of the stomach, either through edema and inflammatory swelling, or by cicatricial contraction from previous healing efforts. An ulcer high on the lesser curvature, on the other hand, cannot mechanically retard the passage of food through the pylorus and, in itself, will never produce pyloric stenosis. For all practical purposes a duodenal ulcer is looked upon as not being associated with a carcinoma of the duodenum while the possibility of an ulcer crater in the stomach being malignant rather than benign, always exists. For a lesser curvature ulcer to produce a cicatricial hourglass constriction, great chronicity and extension from the curvature to anterior and posterior walls of the stomach must occur.

3. The inherent physical nature of the ulcer bearing patient plays a prominent rôle in determining a complication.[7] Intercurrent infections leading to debility predispose to progression in an ulcer in experimental animals when other factors are constant.[6] Similar behavior in human ulcer recurrences may be noted. That local inherent physical characters are also important has been noted by Hurst[1 8] in the "steer-horn" or hypersthenic type of stomach. Also the protective rôle of

*Read before the West Virginia State Medical Association, Clarksburg, May 25, 1937.

regurgitated alkaline duodenal contents may be limited by anatomical defects. The inherent neuromuscular properties of the pylorus may determine the effectiveness of the sphincter in this physiological function.[4 5 6 9 22].

The important complications of peptic ulcer are:[10]

1. Pyloric obstruction.
2. Excessive continued secretion.
3. Perforation.
4. Perigastritis or periduodenitis.
5. Perigastric or periduodenal abscess.
6. Hour-glass deformity of the stomach.
7. Massive hemorrhage.

Some degree of pyloric obstruction is a common occurrence in ulcer. Craters on either the duodenal or gastric side and immediately adjacent to the pylorus, may early produce a narrowing of the pylorus from the spread of the inflammatory reaction. It is of utmost importance to determine whether the handicap in emptying the stomach is temporary (inflammatory swelling) or permanent (cicatricial contraction). With early healing of an ulcer, subsiding edema may convert a fairly high grade obstruction to no apparent obstruction in a few weeks. Stenosis from the contraction of scar tissue devlops from alternate or concomitant repair and progression of the lesion in this influential location. The patient usually suffers more pain in the obstruction caused by spasm and inflammatory swelling than he suffers in the obstruction from cicatricial stenosis.[12] In either instance, the pain will be diffuse over the upper abdomen in contradistinction to the localized pain characteristic of uncomplicated ulcer.[2 11] A patient having long standing obstruction usually learns to vomit to obtain relief. The vomitus of such a patient is from a few ounces to two quarts in volume and is highly acid. Sarcinae may be present. Nocturnal pain in any ulcer patient should lead the physician to suspect an obstructive lesion. The proper evaluation of the degree of obstruction requires accurate and repeated determination of the volume remaining in the stomach after suitable meals. The "motor meal" of meat, bread, two or three vegetables and a salad, gives, in conjunction with the radiologist's study of the emptying time for barium, far more pertinent information than the use of the latter alone. Low grade permanent obstruction may be well borne by the patient allowing only very finely divided food in the stomach and keeping the viscus empty at night, if necessary, by routine gastric aspirations at bed time. Between 85 and 90 per cent of all cases of pyloric obstruction can be managed medically.[9 12] High grade obstruction compels surgical intervention. Because of the unphysiological nature of a gastrojejunostomy,[5] one of the varieties of pyloroplasty is to be preferred where the operation is possible.[4 9 13 14 15] If we are to direct surgical treatment toward the control of precipitating factors, the operation used should be one which permits the emptying of acid-pepsin chyme into the duodenum. The duodenal mucosa is accustomed to receiving this digestive mixture and is better supplied with alkaline secretions than is the jejunal lining.[16]

Continuous hypersecretion in the fasting stomach is a complication too often preventing successful results from medical therapy. This condition was originally noted by Reichmann[1] and occurs commonly in pyloric obstruction, occasionally in hour-glass deformity and even in otherwise uncomplicated ulcer. Proper healing cannot occur when gastric juice of an abnormal acid titer and volume replaces the usual fasting contents of the stomach during the nocturnal hours. Much of what is accomplished toward healing during the day may thus be lost at night. The mechanism whereby an ulcer produces this overactivity of gastric glands, which should be in a relatively resting state during a fast, is an academic question. Its occurrence is not to be denied. The treatment consists in emptying the stomach about three hours after the last feeding by aspiration through a suitable tube. If necessary this procedure is to be repeated at midnight. These aspirations must be done each night for the first few weeks. It will be observed, as the ulcer heals, that the excessive

secretion regains the character of normal fasting stomach contents.

Perforation is one of the dramatic complications of ulcer. While acute ulcers rarely perforate, it so happens that chronic ulcers often remain relatively symptomless (silent) until they perforate. In a few hours the patient may pass from apparent robust health to the brink of death.[17 18] This classical and long recognized abdominal catastrophe has been well described by the late Lord Moynihan.[19] The onset is abrupt; the victim falls or lies down with intense agony in the epigastrium. His face is pale, anxious and appealing. The respiration is panting and of a costal type. He answers in monosyllables with reluctance, and usually during the expiration

FIG. 1 FIG. 2 FIG. 3

FIG. 1: Skiagram of a well filled normal stomach and duodenum.
FIG. 2: Ulcer crater on the prepyloric portion of the lesser curvature.
FIG. 3: Ulcer crater on the posterior wall of the stomach, prepyloric region. Film is taken with the patient supine.

of air. His scalp and face become cold and are bathed in perspiration. His thighs are flexed, he lies on one side rigid and motionless. He objects to any attempted pressure on his abdominal wall. His pulse rate may be slightly increased, the blood pressure normal or slightly lowered, and his temperature is regularly lowered soon after the perforation. The diagnosis of a perforated abdominal viscus is strikingly verified by the presence of gas beneath the diaphragm in a skiagram of the patient's abdomen.[46] However, if the gas bubble is not found in the characteristic location over the dome of the liver, perforation cannot be excluded.[2 5] Statistics for the incidence of perforation are variable. Brown[2] found perforations in but four per cent of 1200 cases of ulcer admitted to the Presbyterian Hospital of Chicago, while Hinton[18] found that perforation occurred about twice as frequently as hemorrhage in Bellevue Hospital.

Not sufficiently recognized is the less dramatic clinical picture of *forme fruste*[20] or subacute perforation.[21 22] The importance of this phenomenon has been stressed in the past decade by Singer.[20] In such an occurrence the

FIG. 4 FIG. 5 FIG. 6

FIG. 4: Ulcer crater in the duodenal wall, demonstrated by using a pressure bulb.
FIG. 5: Obstruction from a prepyloric ulcer. (Barium administered eight hours before).
FIG. 6: Same stomach as shown in Fig. 5 showing functioning posterior gastroenterostomy.

pain is less severe, hence physicians often do not see the patient. In two to ten hours the symptoms often subside and the patient may become quite comfortable. But the perforation sets up a local peritonitis which, with subsequent bacterial invasion, leads to periduodenal, perigastric or subphrenic abscess some days or weeks later. This source, unrecognized, likely has given rise to some of the so-called cryptogenic subphrenic ab-

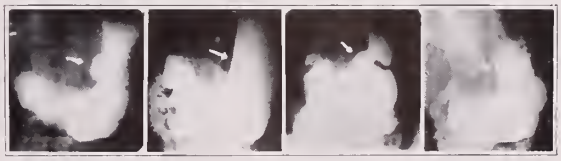

FIG. 7 FIG. 8 FIG. 9 FIG. 10

FIG. 7: Large ulcer crater high in the lesser curvature.
FIG. 8: Same stomach as in Fig. 7 after three months' medical management.
FIG. 9: Lesser curvature ulcer producing hour-glass deformity.
FIG. 10: Same stomach as in Fig. 9 after three weeks' medical management.

scesses.[22] Sippy[11 23] early postulated that an occasional ulcer perforation might lead to a "slow leak" sufficiently walled off by the omentum and reaction of the adjacent peritoneum so as to produce an abscess rather than a generalized peritonitis. Whether this

limiting process comes from a gradual or fairly abrupt stimulus is not entirely clear. Frequently, there is a marked local tenderness directly over the active non-perforating ulcer occasioned by the spread of the inflammatory reaction about the crater. Such tenderness subsides under treatment, particularly with the comforting addition of hot wet packs over the upper abdomen. Perigastritis and periduodenitis may be followed by fibrinous and later fibrous adhesions without other evidence of perforation. Rarely will such adhesions require surgical procedures.[24 25] Perforations should be detected early and treated surgically, to avoid the rapidly rising mortality of delay.

Hour-glass deformity of the stomach is a not uncommon, medically interesting complication of peptic ulcer. This type of stomach is also referred to as bilocular stomach and "stenose medio-gastrique".[27] The "hour-glass", it must be noted, is asymmetrical and gives a B-shaped image under fluoroscope[28] because the contracture is in the circular fibers about the body of the stomach which pull the mobile greater curvature toward the site of

FIG. 11: Gas bubbles beneath the diaphragm following the perforation of a duodenal ulcer.

the ulcer on the lesser curvature. This complication occurs in patients with long standing ulcer, one usually having existed for more than a decade.[27] Such patients may have symptoms not unlike those with uncomplicated gastric ulcer. If there is mechanical interference from the deformity, there may be (1) a slight sensation of fullness or pain shortly after the ingestion of food; (2) a regurgitation of food and acid gastric contents; and/or (3) an absence of relief following the intake of alkaline powders or food. Certain interesting physical findings facilitate the bed-

FIG. 12: Spasm in the colon. Pain from an irritable colon often complicates the clinical symptoms of peptic ulcer.

side diagnosis of hour-glass deformity:[21] (1) During gastric lavage the washing fluid may disappear quickly by passing into the lower pouch. If the end of the stomach tube remains in the upper pouch, the fluid cannot be returned. (2) After the upper portion of the stomach has been emptied, a splashing sound still may be obtained by agitating the abdomen (succussion). (3) After getting clear returns, food-contaminated fluid suddenly may be regurgitated from the lower pouch. (4) When the cavities contain both fluid and air, alternate compression will sometimes move the contents from one cavity to another with detectable gurgling.

As in pyloric obstruction, the two factors of spasm and scar tissue contraction must be distinguished in any given case of hour-glass deformity. Good medical treatment, employing duodenal feedings through a small Rehfuss tube when necessary, will eliminate the element of spasm. Quite often a marked hour-glass deformity, recorded on an earlier röentgenogram, will disappear entirely. If adequate medical management does not re-

lieve the deformity, palliative surgery should be done.[27] If the mechanical interference of the persistent contracture is not relieved, the hydrochloric acid of the superior pouch continues to bathe the stoma and a recurrence of the ulcer or the development of a new ulcer may result. As to the incidence of hour-glass deformity, Rivers and Bowers[28] found it in 3.5 per cent of 2,300 ulcer patients. It is a complication of a single ulcer, usually. It should be mentioned that a year after Miller[15] stated that benign ulcer *never* occurs on the greater curvature, Gutman and Loewy[29] reported bilocular stomach in a patient with ulcers of both lesser and greater curvature of the stomach.

The designation of massive hemorrhage describes those instances of serious, life-threatening loss of blood from chronic ulcer. All ulcers probably lose a small amount of blood during their progression, but such loss is not of sufficient significance to be considered a complication. While the majority of patients having massive hemorrhage possess a deeply penetrating benign ulcer, it is well for the medical man to remember that there are other causes of equal or greater moment which must be considered. One must be sure that such a patient has not carcinoma of the stomach, cirrhosis of the liver, one of the splenomegalies, or a hemorrhagic diathesis.[23] The source of bleeding in 177 instances of hematemesis in the Universität Klinik, Leipzig, was as follows:[30]

Gastroduodenal ulcer	130
Gastric carcinoma	24
Gastritis (chronic)	18
Duodenal diverticulum	3
Hiatus hernia	1
Gastric polyp	1

Far more duodenal ulcers bleed than do gastric ulcers. Severe, even fatal, hemorrhage may occur without vomiting. Such a patient feels a weakness and nausea, often has a call to stool and quite frequently faints on the way to or from the bathroom. He has no discomfort in the abdomen other than a slight squeamishness. During the examination one notes a fall in blood pressure, because of the loss of blood, together with tachycardia and pallor. The clue to the proper diagnosis often comes from noting that the previous stool was tarry or imparted a deep maroon color to the water in the bowl of the water closet.

The immediate treatment in massive hemorrhage from ulcer consists essentially in: (1) putting the patient at complete rest in bed; (2) using large amounts of morphine; and (3) keeping the stomach empty. Fluids may be given slowly by venoclysis. It is our experience that blood transfusions are not often necessary in young or middle-aged patients. In older patients the loss of retractile powers of degenerating arterial walls often presents a problem which cannot be overcome and leads to a high mortality rate in patients past 50 years of age.[31 32]. It is well to have compatible blood available and to transfuse the patient whose systolic blood pressure falls below 70 mm. mercury or whose hemoglobin becomes less than 30 per cent of normal value.[1 12 31 32 33] There is little evidence that transfusion has any untoward effect upon continued or repeated bleeding. The stomach may be lavaged with ice water to remove the contents, including clotted blood, if vomiting persists. Epinephrine hydrochloride (an ounce of the 1-1000 solution) has been used with success at the completion of lavage in instances of bleeding gastric ulcer. The adrenalin is left in the empty stomach and, while giving a temporary hemostasis, produces no systemic effects. After three days the patient should be given small amounts of water with a suitable alkaline powder every hour. If milk and cream or other nourishing liquids are not started until the fifth or sixth day, there is no occasion to be disturbed about the nutrition of a patient so completely at rest as the bleeding patient should be.

There is fair agreement among students of the ulcer problem that an acute hemorrhage cannot be satisfactorily controlled by surgical intervention. After the hemorrhage has

ceased and the patient is in good physical condition, the type of further management is difficult to decide upon. In the younger group of patients, it is not our custom at the Davis Memorial Hospital to do surgery after the first massive hemorrhage. Many of these patients, in our experience, follow instructions well and never suffer a recurrence of the complication. With repeated hemorrhage, undoubtedly the patient reaches better health and is less likely to succumb to future bleeding if his ulcer is resected. In the older patients, where there is evident arteriosclerosis, we feel that resection of the ulcer crater should be made after the first massive hemorrhage, as soon as his physical condition is satisfactory for major surgery.

The statistical occurrence of massive hemorrhage from peptic ulcer is between 20 and 40 per cent in various sizable series.[2 14 23 31 32] Peptic ulcer becomes a serious disease when we reflect that a third of all such sufferers will at some time have a massive hemorrhage and that of the latter a few will bleed to death (three to fifteen per cent of all massive hemorrhages).[7 21 23 31 32] While it is uncommon to find both perforation and hemorrhage from the same ulcer crater at the same time, the physician cannot dismiss the possibility of the one simply because the other complication exists. A few instances of perforation and concurrent gastrointestinal bleeding have been reported.[34 35]

With the arrival of the gastroscope in gastrointestinal clinics the factor of gastritis may soon occupy a more significant rôle as an accompaniment of complication of ulcer.[38 39 40] At present, in America, significant inflammation of the gastric mucosa other than directly about the ulcer site is rarely found.[36] This factor of associated gastritis in Europe, however, seems to be the chief basis for the popularity of early partial gastrectomy in any patient with ulcer. The term gastritis often has been applied improperly and without justification to vague clinical complaints in the absence of a lesion of the stomach. In speaking of gastritis as related to chronic ulcer we refer, of course, only to a demonstrable pathological change in the stomach wall.

It is well to mention the state of an irritable colon (unstable colon) at this point, not as an actual complication of peptic ulcer but as the nemesis of the general practitioner in his attempt to treat pain in the abdomen. The most common source of abdominal discomfort in cathartic conscious West Virginia is the large bowel. The physician must use great care to distinguish the pain of ulcer character and localization from that pain produced in the patient by self-medication. Finally, ulcer is occasionally associated with other abdominal diseases such as subacute appendicitis, cholecystitis,[41 42] diabetes,[43] esophageal stenosis[44] and tabes dorsalis.[45] In such instances, to give the patient complete relief, it is necessary to recognize and treat the simultaneously existing disease along with the ulcer. The details of adequate treatment are beyond the scope of this paper. One must recognize always the inevitable fact that, while an individual ulcer may be healed, ulcerative disease, like diabetes, is not, by our present knowledge, cured but merely managed. Once an individual has had an ulcer, he is, for his lifetime, a very suitable candidate for recurrence. It is essential that both the patient and his physician realize this truth.

BIBLIOGRAPHY

1. Hurst, A. F., and Stewart, M. J.: *Gastric and Duodenal Ulcer*, London. Oxford University Press, 1929.

2. Brown, Ralph C.: *The Results of Medical Treatment of Peptic Ulcer*, J. A. M. A., 95: 1144-1148, Oct. 18, 1930.

3. Wilson, J. A., and Earl, G.: *Achlorhydria and Hypochlorhydria*. Minn. Med., 15: 79-85, Feb. 1932.

4. Martin, E., and Burden, V. G.: *Pyloric Achalasia and Peptic Ulcer*. Ann. Surg., 88: 565-575, Sept. 1928.

5. Ivy, A. C.: *Gastroduodenal Ulcer; Physiological Aspects of Etiology, Symptoms and Treatment*, J. Kansas Med. Soc., 33: 52-55, Feb. 1932.

6. Matthews, W. B., and Dragstedt, L. R.: *Etiology of Gastric and Duodenal Ulcer; Experimental Studies*. Surg. Gynec. and Obst., 55: 265-286, Sept. 1932.

7. Jordan, Sara M., and Kieffer, Everett D.: *Complications of Peptic Ulcer*. J. A. M. A., 103: 2004-2005, Dec. 29, 1934.

8. Hurst, A. F.: *The Constitutional Factor in Disease*. Brit. M. J., 1: 823, May 7, 1927.

9. Deaver, J. B., and Burden, V. G.: *Pyloric Sphincter and Duodenal Ulcer*. Tr. Am. Surg. Assoc., 49: 438-447, 1931.

10. Brown, Ralph C.: *Ulcer of the Stomach and Duodenum*. Oxford Med., N. Y., Oxford Univ. Press, 1932, v. 3: 123-172.

11. Rivers, Andrew B.: *Pain in Benign Ulcers of the Esophagus, Stomach and Small Intestine*, J. A. M. A., 104: 169-174, Jan. 19, 1935.
12. Best, G. N.: *Complications of Duodenal Ulcer*. J. Iowa Med. Soc., 20: 416-421, Sept., 1930.
13. Judd, E. S., and Phillips, J. R.: *Pyloroplasty: its Place in Treatment of Peptic Ulcer*. Ann. Surg., 100: 196-201, July, 1934.
14. Fogelson, S. J.: *Gastroduodenal Ulcerative Disease; Review of 1933 Literature*, Internat. Abstr. Surg., 60: 1-15, 1935.
15. Miller, R. H.: *Present Day Review of Gastric and Duodenal Ulcer*, New England J. Med., 206: 925-933, May 5, 1932.
16. Ochsner, Alton: *The Rational Treatment of Peptic Ulcer According to Physiological Principles*. Texas State J. Med., 32: 645-648, Feb. 1937.
17. Dilley, H. R.: *Complications of Peptic Ulcer*. J. Iowa M. Soc., 22: 16-19, Jan. 1932.
18. Hinton, J. W.: *Incidence of Peptic Ulcer and Its Complications*, Am. J. Surg., 20: 102-106, April, 1933.
19. Moynihan, Sir Berkeley: *On the Recognition of Some Acute Abdominal Diseases*, Practitioner, 126: 5-12, Jan. 1931.
20. Singer, H. A., and Vaughan, R. T.: *The "Forme Fruste" Type of Perforated Peptic Ulcer*, Surg. Gynec. & Obstet., 50: 10-16, Jan. 1930.
21. Chaney, R. H.: *Complications of Peptic Ulcer*. J. M. A. Georgia., 19: 128-133, April, 1930.
22. Eusterman, George B., and Balfour, Donald C.: *The Stomach and Duodenum*, Phila., Saunders, 1936.
23. Hill, J. C.: *Complications of Peptic Ulcer*. J. Iowa M. Soc., 21: 615-623, Nov. 1931.
24. Garcia, Tomas Carro: *Some Considerations on the Diagnosis and Treatment of Adhesive Perigastritis*. Arch. espan. de enferm. d. ap. digest. y de la nutricion, 15: 705-721, Dec. 1932.
25. Duval, P., Ameline, A., and Redon, H.: *Duodenal Ulcer Associated with Juxtamesenteric Duodenal Stenosis; New Observation*. Arch. d. mal. de l'app. digestif., 22: 241-244, March, 1932.
26. Sullivan, R. C.: *Surgical Complications of Peptic Ulcer*. Illinois M. J., 66: 276-279, Sept. 1934.
27. Gosset, A., and Loewy, G.: *Bilocular Stomach from Ulcer; Observations Based on 42 Cases*, Presse med., 41: 209-211, Feb. 8, 1933.
28. Rivers, A. B., and Bowers, J. M.: *Hour-glass Stomach and Benign Gastric Ulcer*, M. Clin. North America, 15: 129-137, July, 1931.
29. Gutmann, R. A., and Loewy, G.: *Bilocular Stomach with Ulcers of Greater and Lesser Curvatures and of Duodenum*, Arch. d. mal. de l'app. digestif., 23: 112-117, Jan. 3, 1933.
30. De la Viesco: *Die grosse Magenblutung*. Arch. f. Verdauungskr., 58: 22-32, Aug. 1935.
31. Allen, A. W., and Benedict, E. B.: *Acute Massive Hemorrhage from Duodenal Ulcer*, Ann. Surg., 98: 736-749, Oct. 1933.
32. Goldman, Leon: *Gross Hemorrhage from Peptic Ulcer*. J. A. M. A., 107: 1537-1542, Nov. 7, 1936.
33. Smithies, Frank: *Treatment of Massive Hemorrhage from Peptic Ulcer*, Am. J. Digest. Dis. and Nutrition, 1: 803-807, Jan. 1935.
34. Berg, B. N.: *Coexistence of Perforation of Bleeding Duodenal Ulcers*. S. Clin. North America, 11: 543-545, 1931.
35. Burke, J., and Kummer, C.: *Coincident Hemorrhage and Perforation in Chronic Duodenal Ulcer*, Am. J. Surg., 22: 274, Nov. 1933.
36. Church, G. T., and Walters, W.: *Frequency of Gastritis Associated with Duodenal Ulcer*, Proc. Staff Meet. Mayo Clin., 8: 733-735, Dec. 6, 1933.
37. Walters, W., and Sebening, W.: *Comparison of Lesions Associated with Duodenal Ulcer in Germany and in the United States*, Minn. Med., 15: 579-584, Sept. 1934.
38. Garin, C., and Bernay.: *Gastrophotographic Study of Gastritis in Ulcer Patients*. J. de med. de Lyon, 15: 561-569, Aug. 20, 1934.
39. Schindler, Rudolf: *Diagnostic Gastroscopy with Special Reference to the Flexible Gastroscope*, J. A. M. A., 105: 352-355.
40. Boros, Edwin: *Gastroscopy; Observations in 100 Cases*, Am. J. Digest. Dis. and Nutrition, 3: 533-535, Oct. 1936.
41. Rivers, A. B., and Mason, J. B.: *Association of Peptic Ulcer and Cholecystic Disease*. Minn. Med., 14: 330-335, April, 1931.
42. Muller, H.: *Simultaneous Existence of Duodenal Ulcer and Biliary Disease*. Munchen. med. Wchnschr., 81: 1348-1350, Aug. 31, 1934.
43. Jankelson, I. R., and Rudy, A.: *Simultaneous Occurrence of Peptic Ulcer and Diabetes or Glycosuria*, Am. J. Med. Sci., 181: 356-362, March, 1931.
44. Jackson, C. S.: *Associated Esophageal Stenosis*, Tr. Am. Therap. Soc., 32: 143-148, 1932.
45. Hurt, E. L., and Lisa, J. R.: *Peptic and Duodenal Ulcers in Tabes Dorsalis*. J. A. M. A., 96: 95-98, Jan. 10, 1931.
46. Johnson, Sydney E.: *The Frequency of Air Under the Diaphragm in Perforated Gastric and Duodenal Ulcer*. J. A. M. A., 108: 295, Jan. 23, 1937.

SINUS DISEASE

The more sunshine allowed into the air of your community, the less likely are the persons living therein to contract sinus disease, declares Dr. Lewis J. Silvers in his article entitled "Sinus Disease" appearing in the September issue of *Hygeia*.

The occurrence of sinus disease appears to be inversely proportional to the intensity and prevalence of sunshine in any community. The dirt and dust churned up by the incessant stream of traffic in any of our large cities amounts daily to more than a large tablespoonful. Those living in sparsely settled regions are less subject to sinus trouble due to irritation and the resultant infection.

Anatomically, the head contains four pairs of air cavities, commonly called sinuses. Each sinus opens into the nasal passage and is contiguous with the mucosa of the nose. A turbinate body, or concha, guards each orifice and is protective against dry, cold and polluted air.

The spongy turbinate, rich in blood vessels, moistens, warms and filters the air we breathe. Therefore, when swelling of the mucous membrane occurs from any cause, the ventilation of the sinuses is interfered with, and obstruction to drainage is bound to follow.

Besides the physiologic functions already described, the paranasal sinuses have also two other important functions. Substituting air space for solid bone they render the head more manageable by increasing its lightness. The air cavities also act as sounding boards and increase the resonance of our voices. Frequently the voice of a sinus sufferer sounds flat and nasal.

A RESUME OF 100 CONSECUTIVE SIMPLE MASTOIDECTOMIES*

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THE material for this paper was obtained from the record files of the Department of Otolaryngology of the Wheeling Clinic. The series is presented here for the purpose of bringing to your attention again the subject of acute mastoiditis. I have endeavored to fit the cases into the grouping of etiology, symptoms, diagnosis, operation, hospitalization, complications and results.

Etiology: The greater number were directly caused by upper respiratory infections. Under this group we consider acute coryza, sinusitis, sore throat and tonsillitis. In this series, seventy-nine cases gave either a definite antecedent history or the infection was present at first observation of the patient. Grippe and influenza were responsible for eighteen cases. Measles, scarlet fever, and pneumonia were the direct causes in three cases.

The predominating organism as cultured from the mastoid at operation was streptococcus hemolyticus. This occurred in approximately 60 per cent of the cases. The streptococcus was not typed and for that reason, figures are not available as to type. Pneumococcus was found in 20 per cent of the cases. Some of these were typed as number one, but the majority were not classified as to type. Staphylococcus was present in less than three per cent of the cases. The remaining 17 per cent either were not cultured at operation or showed contamination. Since the vast majority were caused by upper respiratory infection, influenza and grippe, the initial infecting organism may have been some other than the streptococcus but in view of the fulminating type of some of the mastoids of this series, it is my belief that the streptococcus hemolyticus was the original infecting organism. It is also true that the marked destruction seen at operation is most commonly caused by streptococcus.

Symptoms: (1) Earache. Twenty-nine cases presented this symptom and all but one gave a positive history. Of those complaining of earache, all had a paracentesis of the ear drum with resulting discharge for periods of from five days to six weeks. In two instances, the ear drum was incised at the operating table because the diagnosis of a surgical mastoid was too evident from the other symptoms and signs.

(2) Pain was present in approximately 50 per cent of the cases. It was generally described as radiating over the side of the head or as a deep-seated pain. Pain and restlessness at night were most prominent symptoms in those cases of young children who had been under our observation from the beginning.

(3) Tenderness on pressure usually occurs with the pain except in adults with a thick mastoid cortex. This symptom is present in nearly every case. The localizing points of tenderness were found over the mastoid antrum, the mastoid tip and about the entrance of the emmissary vein. However, it varied in many cases. Some had tenderness at only one point while in others it was elicited at two or three points.

(4) Discharge was present in 98 per cent of the cases. The duration of the discharge was from ten days to six months. The average period was fifteen days.

(5) Drooping of the canal wall or narrowing of the inner end of the canal was seen in surprisingly few cases and these only in chil-

*Read before the Eye, Ear, Nose and Throat Section, West Virginia State Medical Association, Clarksburg, May 24, 1937.

dren under fourteen years. Those cases in which it was seen had been under observation since the onset of the initial earache.

(6) Fever was taken into consideration when there was a secondary rise with a discharging ear. This also was seen most consistently in those cases which had been under observation for some time. Every case of acute otitis media that is not hospitalized is requested to keep a four-hour temperature chart. In addition to having preoperative fever charts, we ask the patient to keep a postoperative record when he leaves the hospital on the fifth or sixth day. We feel that where a patient is under close observation, the temperature record is one of our most important sources of information.

(7) Subperiosteal swelling was present in five cases.

(8) The white blood cell count was increased in all cases; the figures ranged between 11,500 and 23,000, with a polymorphonuclear count of between 65 and 90 per cent.

(9) X-ray was utilized in all cases except those under one year of age, where it is of little value due to lack of mastoid development. In those cases in which x-ray pictures were taken, the findings were positive and x-ray was found to be of great help in finding and exposing the involved cells.

The indications for surgical interference as enumerated by Phillips and S. MacCuen Smith were followed in this series as closely as possible. They are as follows:

1. Pain over the mastoid region.
2. Tenderness on pressure over the mastoid cortex.
3. Drooping of the posterior superior canal wall and bulging of the drum membrane which does not diminish as a result of paracentesis.
4. Fever: a secondary rise of temperature is of more significance in infants and children.
5. Prolonged and profuse discharge which resists all approved measures of local treatment, including paracentesis.
6. Subperiosteal, postauricular swelling, with or without superficial abscess.
7. Symptoms of intracranial complications or of purulent labyrinthitis.
8. Advent of facial paralysis.
9. X-ray with the presence of confirmatory clinical symptoms.

The time for operative interference was dependent upon a satisfactory diagnosis of the presence of destructive suppurative inflammation in the mastoid cells. Just when the exact time had arrived was not measured by days or hours, but the mastoid operation was performed in acute suppurative inflammation which involved the mastoid cells, whenever a permanent remission of symptoms was not effected either by drainage through the drum membrane, rest in bed or other local treatment. Eighteen cases were operated upon prior to ten days after the onset of symptoms and the remaining eighty-two were operated between ten days and six months after the onset of symptoms.

All cases were operated upon under general anesthesia, either nitrous oxide or nitrous oxide induction with ether. The operative field was prepared in the usual manner. The mastoid antrum was opened and enlarged. The entrance into the aditus ad antrum was sought. When this was accomplished, the remainder of the mastoid cells were opened and the entire contents exenterated as completely as possible. The posterior canal wall was taken down at least half way. The dura was exposed over the lateral sinus or in the middle fossa in more than 35 per cent of the cases. A rubber tube was placed into the antrum and brought out through the lower end of the incision for drainage. Where the dura was exposed, it was covered with iodoform gauze, the end of which was brought out through the lower end of the incision. Where the dura was not exposed, iodoform gauze was packed into the cavity lightly and the wounds closed with interrupted silk worm sutures, three or more as required for complete closure. Postoperatively this packing was removed gradually a little each day. In the

cases where the dura was not exposed, it was our practice to have all the packing out on the fifth or sixth day; however, where the dura was exposed, the packing was allowed to remain longer, but never over ten days. The rubber tube was removed in ten days to three weeks depending on the type and amount of discharge from the postauricular incision.

The average period of hospitalization was 10.9 days for the entire series. Thirty-five cases were discharged within seven days. Sixty-five per cent of the cases were in the hospital less than eleven days. Eighty-nine per cent were hospitalized less than fifteen days. The remaining eleven cases were retained in the hospital for periods between three and five weeks. These were complicated cases or were in quarantine for scarlet fever and measles; one happened to be a student nurse.

Complications always occur in a certain per cent of acute mastoids. This series is no exception, so for simplicity, they may be classified as preoperative and postoperative. In the preoperative group, there were seven cases. In five of these cases, the complication was the indication for operation and in two cases the complication was discovered at operation. There were three cases of meningitis; one, an acute fulminating type with onset six days after incision of the ear drum. The second was a neglected case which showed a perforation of the petrous tip at autopsy. The third (another neglected case) had in addition to the meningitis, multiple brain abscesses, sinus thrombosis, and an extradural abscess. The last two mentioned had had discharging ears for four weeks and six months respectively. The ear drums had not been incised. There was one case of septicemia with metastatic abscess, secondary to sinus thrombosis. The duration was not clear from the history. This series included one case of labyrinthitis which was well established prior to operation. The sixth and seventh cases were perisinus abscess and subdural abscess, respectively, uncovered at operation.

In the postoperative group, there were four cases: three of sinus thrombosis and one of petrositis which terminated in a meningitis.

The mortality in this series was five per cent. Four of the deaths occurred in the preoperative group of complications, one in the postoperative group. One case died of acute endocarditis, the mastoid being only coincident. Meningitis was the cause of death in four cases, septicemia in one. There were four cases of sinus thrombosis, with one death.

Conclusions: 1. Acute mastoiditis occurs more frequently in cases where the ear drum has not been incised.

2. Early otologic consultation will reduce the incidence of complications.

3. Minor complications may be present and not diagnosed until operation.

4. The simple mastoidectomy is often a life saving procedure and in nearly every instance when done thoroughly and at the proper time, preserves hearing.

5. The dura or lateral sinus will be exposed in 30 to 35 per cent of the cases.

6. Exposure of the dura and lateral sinuses does not invite trouble but rather avoids it in a well-done mastoidectomy.

7. Petrositis occurs in two per cent of cases.

8. Mastoiditis has an accompanying mortality of five per cent.

LYING CONDUCT OF CHILD

The parent who lies to his child—even though it be in the spirit of kindness—is often himself the parent of a child who lies, Dr. Everett S. Rademacher points out in his article "Children Who Lie" appearing in the September issue of *Hygeia.*

Exaggeration as a form of lying is also learned from parental example. The parent recounts to a friend some simple episode of the home life, and the child listens. Soon there is a vague recollection that it is the simple incident which took place the other day and in itself was a simple thing, but by the addition of a little coloring a much better effect is created.

Again he learns and realizes that the right effect may bring for him sympathy or recognition even though he may deserve criticism.

BASAL PULMONARY TUBERCULOSIS WITH REFERENCE TO DIAGNOSIS AND TREATMENT*

By REX A. BURDETTE, PH.G., M. D.
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Morgantown, W. Va.

THIS subject, basal or lower lobe pulmonary tuberculosis, is chosen primarily for three reasons: First, because it is generally thought to be quite an uncommon lesion; secondly, because of the various conditions that may make the differential diagnosis difficult; and thirdly, the difficulty that may be encountered in arresting the lesion.

It is generally true that tuberculous disease begins more frequently in the upper half of the lung and non-tuberculous disease in the lower portion. However, there may be many exceptions to this general rule. That lower lobe tuberculosis is more common than generally believed may be verified by a study of the records in one of our state tuberculosis sanatoria. At this institution among 691 admissions, 23 cases of lower lobe tuberculosis were encountered, about three per cent of all admissions that were diagnosed as tuberculosis.

The opinion of writers today seems to disagree with the writers of a few years ago. Fishberg considered all lesions non-tuberculous until proven otherwise. Laennec stated it is extremely rare for excavations to develop first in the middle or base of the lungs. Pottenger does not discuss the condition at all. Hamilton and Freed reporting on 198 new admissions at King's County Hospital, N. Y., found ten cases of basal tuberculosis, three males and seven females, an incidence of over five per cent. They add that these figures do not present a true picture of the incidence of lower lobe tuberculosis for the reason that their series was small, and because many patients with lower lobe tuberculosis have remained with an incorrect or without any diagnosis in the medical wards.

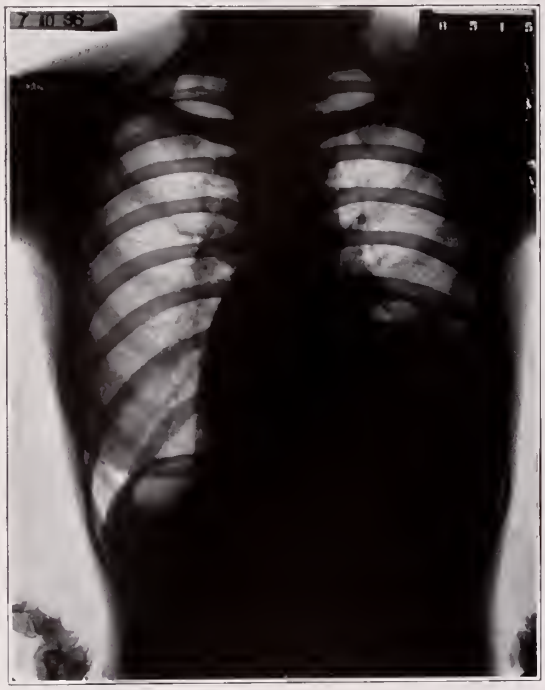
The mode of development of lower lobe tuberculosis remains controversial. Some authors are of the opinion that the mode of development depends upon the rupture of a tracheobronchial or hilar lymph mode into a bronchus, and lodgment of a massive infection in the terminal bronchioles and alveoli producing a bronchopneumonic involvement. Others believe it to be an atypical manifestation of miliary tuberculosis and due to blood stream infection.

As we shall note later in this discussion the diagnosis of lower lobe tuberculosis is often difficult, and in the beginning it is well to take serious note and consideration of the symptoms presented by the patient. Hamilton and Freed noted in their ten cases that cough was present in all of them, hemoptysis in eight, night sweats in six, loss of weight in five, fever in five and pain in the chest and expectoration in two.

In considering the differential diagnosis of basal pulmonary lesions one is confronted with a number of conditions. The most frequent basal pulmonary lesion is bronchiectasis. This condition, except post-tuberculous bronchiectasis, usually follows respiratory infections in childhood or it may be the result of infection of the paranasal sinuses. The symptoms of this conditon may be very varied depending upon whether the condition is minimal or far advanced. In the minimal cases the symptoms may be limited to a moderate cough with the expectoration of a small amount of mucoid or mucopurulent sputum.

*Read before the Monongalia County Medical Society, Morgantown, W. Va., August 3, 1937.

In dry or hemorrhagic bronchiectasis the condition is characterized by hemorrhage, either single or repeated, without cough. The usual type of bronchiectasis, that following respiratory infection of childhood, involves the base of both lungs and is associated with cough and the expectoration of a large amount of foul smelling sputum tinged with blood. In



Lower Lobe Tuberculosis with Cavitation.

the advanced cases there may be clubbing of the fingers, fever, signs of general sepsis, and coarse bubbling râles on auscultation over the base of both lungs. In this condition in addition to röentgenological and possibly bronchoscopic examination very careful examination of the sputum should be made for the presence of tubercle bacilli. Röentgenological examination of the chest after the injection of iodized oil into the air passages will reveal dilatation of the bronchi with sacculation and tortuosity and these findings justify one in making a diagnosis of bronchiectasis, tuberculous or non-tuberculous depending upon the presence or absence of tubercle bacilli in the sputum.

No doubt the second most frequent basal pulmonary lesion is lung abscess. While abscesses may occur in any portion of the lung they are more often found at the base. Unless the pleura is involved the detection of an abscess by physical examination is most difficult. There is usually, however, a history of a nose or throat operation under general anesthesia. The patient in most cases appears to be quite ill, septic, prostrated, with high fever and chills especially in the acute cases. Röentgenological examination may reveal cavitation in the lung with or without a fluid level in the cavity. In the majority of cases of lung abscess there is a stricture in the bronchus communicating with the area of infection. After careful history, physical examination, and x-ray study the diagnosis of lung abscess may best be verified by bronchoscopic study.

Basal Pneumonitis due to Bronchiectasis.

Malignant disease may occur in the lung as a primary or metastatic lesion. With rare exceptions when primary, all tumors are bronchiogenic and arise from the epithelium or glands of a bronchus. The growth reduces the size of the bronchus, interferes with drainage and gives signs of obstruction. In contrast to abscess, definite physical findings

are usually present. The most constant sign is the diminution or absence of breath sounds over the area communicating with the obstructed bronchus. There may be moderate impairment of the percussion note over this area, but not the dullness or flatness characteristic of fluid or a thickened pleura.

Metastatic malignant disease of the lung unlike primary lesions does not produce definite signs or symptoms unless there is involvement of the pleura with effusion. A malignant metastatic lesion may erode the wall of a bronchus producing the same signs and symptoms as a primary lesion. Here the correct diagnosis depends upon bronchoscopic examination with biopsy.

Congenital cystic disease is frequently located at the base of the lung, but is usually easily diagnosed by x-ray study.

Lateral view—after Injection with Lipiodol.

Mycotic disease of the lung occurs rarely and a correct diagnosis can be established by the finding of fungi in the sputum.

Other conditions that may rarely be confusing in the differential diagnosis of lower lobe tuberculosis are: (1) Aneurysm of the thoracic aorta with pressure or erosion of a bronchus; (2) pulmonary congestion which may simulate tumor or inflammatory lesion of a bronchus; (3) hernia of the diaphragm, or (4) abscess beneath the diaphragm which may at times simulate basal tuberculosis, but careful history, thorough examination and x-ray studies should settle the diagnosis.

Lung Abscess.

Lower lobe tuberculosis is encountered frequently, and usually the careful and repeated examination of the sputum for tubercle bacilli will establish the correct diagnosis. Failure to realize that lower lobe tuberculosis is frequently encountered and neglect in examination of the sputum for tubercle bacilli may lead to frequent errors in diagnosis, and it is to be remembered that the sputum in these cases may remain negative for a long period of time. Excavations in lower lobe cases are less "open" than in upper lobe cases, and an obstruction in the bronchi may interfere with the evacuation of the cavity contents.

Treatment of basal tuberculous lesions is naturally beset with many difficulties due to the anatomical location of the lesion. In addition to indicated surgical procedures these people should receive the usual medical care

given tuberculous patients, absolute bed rest, nourishing food, with living conditions and environment free from worry or mental strain. As with any tuberculous patient these are better treated in sanatoria than in the home. The lower lobe tuberculous lesion is just as prone to excavation and cavitation as

Metastatic Carcinoma of Lung.

lesions located in the apices. For that reason and because a selective collapse is difficult to produce at the base of the lung, all these patients should receive pneumothorax. This may be supplemented by temporary phrenic crush. Complications such as effusion and pleural adhesions are prone to occur and need to be taken care of as the occasion arises, aspiration in case of effusion and pneumolysis in case of pleural adhesions.

Summary: The incidence of lower lobe tuberculosis as studied is between three and five per cent.

Many conditions are encountered that make the diagnosis difficult, but by careful history, physical examination, x-ray and necessary laboratory procedures the correct diagnosis may be definitely determined.

Treatment is confined to those measures, both medical and surgical, that are indicated in upper lobe or apical tuberculosis.

The response to treatment is slow and the period of treatment is usually longer before improvement is noted as compared to other pulmonary tuberculous lesions.

Complications are frequent and should be cared for as indicated.

BIBLIOGRAPHY

1. Vinson, Porter P.: *The Differential Diagnosis of Chronic Basal Pulmonary Lesions.* Virginia Medical Monthly, 63, 10, 603, January, 1937.

Vinson, Porter P., Toone, Elam C.: *Pulmonary Symptoms Resulting From Ulceration of Hilar Lymph Modes into a Bronchus.* W. Va. M. J., 33, 5, 220, May, 1937.

2. Fishberg, Maurice: *Pulmonary Tuberculosis.* Ed. 4, Philadelphia, Lea & Febiger, 1932.

3. Laennec, R. T.: *Treatise on the Diagnosis and Treatment of Diseases of the Chest.* New York, S. Wood, 1935.

4. Pottenger, F. M.: *Tuberculosis in the Child and Adult.* St. Louis, C. V. Mosby Company, 1934.

5. Hamilton, Chas. E. and Freed, Harry: J. A. M. A. 105, 6, 427, August 10, 1935.

PLANNED VOCATIONS

Far-seeing parents are they who take stock of their child's abilities and aptitudes when he reaches the age of 12, as the time approaches for the decision as to which course he will pursue in junior and senior high school. Regina J. Woody's article "The College C(o)urse" appears in the September *Hygeia.*

Choosing the right course is more difficult than would appear at first sight, for there are three things to be taken into consideration if the results are to be equally satisfactory to the child, the school and the parent. The first consideration is the course the child wants to enter; the second is the course which his marks will permit him to enter, while the third consideration is the amount of money the parent can afford to allow him to spend on his education.

Far too many parents fail to consider that college will not make their child self supporting; rather will it be an expensive additional four years of education at a conservative estimate of twelve hundred dollars a year. Unquestionably the four years of education they have received in college, the poise and the ability to think for themselves which they have learned in that time will tip the scales in their favor when there is a chance of promotion.

Parents must study report cards and discuss the child's hobbies and tendencies in a detached manner.

CUTANEOUS ANTHRAX: CASE REPORT

By L. RAGGIO DUDNEY, B. S., M. D.
Isaban, W. Va.

ANTHRAX is one of the most widespread of all acute infectious diseases. Practically all warm-blooded animals are subject to the infection. The exciting cause is the bacillus anthracis. It is largely, however, a disease of herbivora attacking especially cattle, sheep, and goats. In the United States it is comparatively rare in man, only about 130 cases being reported each year. It is largely an occupational disease, although not entirely so, being transmissible to man in whom it occurs in three forms, namely: cutaneous, pulmonary and intestinal. The cutaneous is the most common form and otherwise is known as "woolsorter's disease" or malignant pustule. The site of inoculation is usually on an exposed surface.

The following case report is one of cutaneous anthrax: P. C., a white male, age thirteen, was first seen at his home in the afternoon of May 15, 1937, because of a "sore" on the right ala of the nose and an extensive swelling of that side of the nose and the same side of the face. He stated that on Thursday night, May 13th, he noticed a small "bump" on his nose. This did not pain, but itched a little and he put alcohol on it. The following day he scratched this and there was a small amount of discharge, but the lesion continued to appear insignificant and caused no pain. On the following morning before the patient was first seen in the afternoon, the lesion became a red papule and the surrounding tissue begin to swell rapidly, but still caused no definite pain.

By the time the patient was first seen the lesion had become a dark brown adherent crust circumscribed by vesicles, and the surrounding tissue was greatly swollen, so much so that vision was somewhat impaired on the same side. The only complaint at this time was a slight headache.

The boy stated that they owned one cow, two hogs and one ox, and that a cow in the immediate vicinity had died a few days before of "stagger-weed" poisoning.

The patient was immediately taken to the hospital with an admission diagnosis of possible cutaneous anthrax.

Physical Examination: The patient was a fairly well nourished and developed white male, somewhat anemic looking, who did not appear acutely ill. Head revealed nothing of importance with the exception of a lesion on the right ala of the nose about one centimeter in diameter, covered with a dark brown crust surrounded by several small vesicles apparently filled with clear fluid. The entire right side of nose and face was swollen, red and somewhat indurated, but not acutely tender. The submaxillary lymph nodes on the right were enlarged. The remainder of the physical examination revealed nothing of importance.

On admission, his temperature was 98.6°, pulse 90 and respiration 20. A smear from the lesion revealed only pus cells and no organisms of any type.

On May 16, scrappings from the lesion revealed pus cells and the bacillus anthracis. Cultures were also taken from the lesion and the blood.

Urinalysis: Amber in appearance, acid, faint traces of albumin, negative for sugar, occasional hyalin cast, occasional red blood cell and one or two leukocytes per high power field.

Blood Examination: Hemoglobin, 55 per cent; red blood cells, 2,890,000; white blood cells, 13,000; polymorphonuclear neutrophils, 72 per cent; small lymphocytes, 20 per cent; large mononuclears, two per cent; baso-

phils, six per cent; slight poikilocytosis; color index, 0.9. The temperature had risen to 102°, pulse 110 and respiration 20.

On May 18, both the blood culture and the culture from the lesion presented the bacillus anthracis. On this date, 50 c.c. of antianthrax serum were given intravenously, the delay being due to the inability to secure the serum locally. Following the administration of serum, the temperature came down to normal within 24 hours and remained so throughout convalescence. Likewise, the lesion rapidly subsided, healing with desquamation and leaving a permanent pitted scar.

On May 24, another blood culture was taken, but the bacillus anthracis was not demonstrated. The patient was discharged May 26, apparently fully recovered.

Summary: 1. A case of cutaneous anthrax is reported with no definite history as to the source of inoculation.

2. A very malignant appearing lesion characterized by a dark brown center, surrounded by silvery vesicles in the midst of an extensive area of swelling, with the absence of pain in a patient who did not appear acutely ill aroused the suspicion of anthrax. (Symmers states that he has seen a patient contentedly reading a paper 20 minutes before death).

3. The bacillus anthracis was demonstrated in a smear from the lesion and in the blood stream by means of a blood culture.

4. The lesion rapidly subsided following specific therapy.

X-RAY AND RADIUM

There is absolutely no pain or even feeling in the application of either x-rays or radium, and x-rays can be neither seen nor felt, Dr. H. W. Van Allen declares in his article "X-rays and Radium in Medicine" in the September *Hygeia.*

A so-called burn is not a part of the treatment; it occurs only through an error or in some extremely desperate case, in which the patient should be previously warned that a burn may be necessary. After some days a temporary reddening or tanning effect is often produced, which is desirable for hastening a cure; but this is not a burn.

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

Eradication of tuberculosis as a human epidemic can be brought about only through methods of precision. Recognizing the open case is highly important, but it is not enough. Already that case has done his bit to keep the epidemic alive by spreading his disease to others. No passive measures will suffice. An aggressive hunt for the occult spreader is essential. To be productive, the search must be directed to those groups showing high rates of infection. One of these groups is our increasing army of transients.

Transiency—A Public Health Menace: At least one type of citizen in the United States stubbornly defies regimentation, classification, or control. He is the tuberculous transient who has come west seeking a climatic cure, exhausted his resources and now wanders from place to place on foot, on brake rods, or in a dilapidated auto. In jungles, shacks and flophouses he pauses when he must. He has lost his claim as a resident of the home town he deserted, and is not welcomed as a resident elsewhere, since he is regarded as a "bum" without visible means of support, but with a very visible need of relief. He is not, in the main, getting well of his consumption—salubrious climate notwithstanding. In many instances he is accompanied by his worried wife and half-starved children. Worst of all, he is a prolific sower of the seed that causes tuberculosis, for even the respectable, cautious resident cannot escape contact wtih him directly or indirectly at the filling station, restaurant, tourist camp or lodging house.

No census has been taken of tuberculosis wanderers, but a conservative estimate, based on observations of transient officers, is that their number exceeds 1,000 in the states of Colorado, Arizona, New Mexico, western Texas and southern California. This number, however, includes only the obvious consumptives—obvious, that is, to the nonmedical social worker. If a more thorough and precise case-finding search were made, including x-ray examinations, the army of indigent tuberculous in the Southwest would doubtless exceed 5,000.

Sooner or later these wanderers will lose their legal residence acquired in the communities whence they came and very many of them will not gain citizenship in a new locality. Opportunities to earn

a livelihood are scanty or non-existent. Indigence is added to their invalidism and with no settled residence they are nobody's responsibility. This is calamity enough for the unfortunate victim, but it is very bad in another sense. In his extremity the patient moves on, perhaps crossing state boundaries, but surely spreading his disease in the new regions he visits in the hope of finding some relief.

The recent business depression has noticeably aggravated the problem of the migrant tuberculous. Failure to make a living at home has started a vast number of new transients on the road, many known and occult cases of tuberculosis among them. At the same time state and community resources for public health and welfare work have dwindled.

Recognizing the gravity of this situation the National Tuberculosis Association called a conference last year at Santa Fe to which public health and welfare workers from the Southwestern States were invited. The conclusion reached was that the problem was too great for solution locally and the recommendation was made that organized federal aid be requested.

Already the Emergency Relief Administration has provided its transient shelters, hastily constructed concentration camps set up in an effort to "freeze" the army of aimless wanderers. Provision was made for those who were ill, and of this number about a third were found to be suffering from tuberculosis. These were segregated and heroic service was rendered by local doctors and all available nurses working under serious limitations because of inadequate room and equipment.

Hard times will always emphasize the problem of the sick, indigent, homeless transient, but the problem itself antedates hard times and will persist through prosperous ones as well. The menacing public health aspects of the situation are still to be faced. The medical profession can render incalculable aid toward lessening this evil by damming up the transient stream at its source. The advantages of certain climates in the treatment of pulmonary disease are readily admitted. But climate is only one of the essentials in recovery from pulmonary tuberculosis and by no means the most important. Comfortable living, with rest, peace of mind, adequate nutrition and skilled medical care are the prior requisites. If physicians will preach these doctrines in their communities as well as to their patients the melancholy hegira of unsuitable cases will diminish. If they will with insistence point out the increasing provision of excellent sanatoria near at hand in their own localities, at the same time demonstrating the growing percentage of arrested cases discharged from these institutions, they will make a contribution to public health protection of genuine significance.

But the tide will recede slowly and meanwhile there is the army already enlisted in this great migration. How to prevent its continuing to spread disease is a question that is perplexing the most experienced health and social workers. Forcible detention is in bad odor—tuberculosis is not yet regarded by the public as seriously as leprosy, for example. Deportation to point of origin would not solve the larger problem and for some patients who have the fixed idea that their very lives depend upon living in this or that climate, it would be inhumanly cruel to send them home, wrong though they might be. To erect sanatoria in resort areas would result in luring persons from all parts of the country, and thus aggravate the evil. Families would come with them and, not being eligible as patients, would be dumped upon the mercy of social agencies in cities and towns nearby, already swamped with appeals from their own people.

One proposal made is that colonies be established in the great open spaces for entire families. But the states where they would be most likely to settle are least able to support such an enterprise and the federal government can hardly be expected to finance it, at least not until the broad problem of transiency is tackled through sweeping legislation such as that proposed in the Trammell-Wilcox bill recently before Congress. Self-support of such a colony is a fatuous hope, and it seems unlikely that many families would consent to be herded together in that manner. And if such colonies, because of good management and by providing attractive living conditions should succeed, we would again be confronted by the problem of preventing the influx of families from all over the country who had better remain where they are.

At present the United States Public Health Service is studying the situation to see what facilities are available. The situation is probably not as hopeless as it might have been a few years ago. One advantage is that the country generally is now better equipped to care for its tuberculous residents near at home. Another advantage not to be had a few years ago are modern weapons that are now used to combat tuberculosis. Isolation of the carriers in sanatoria is, of course, the crux of the situation,

(Continued on page xxvii)

PRESIDENT'S PAGE

During the great depression it was frequently observed that there was a scarcity in the land of plenty and that a great deal of hardship and suffering was caused through lack of an adequate and equitable system of distribution. To some extent this phenomenon is present in the distribution of medical talent. In urban communities there is a concentration of professional men which is unjustified and works a hardship on a great number of doctors. In large rural communities there is a scarcity of medical men and this results in inadequate medical attention for a certain number of patients.

Carrying the illustration still farther, we note that there is an overconcentration of medical talent in certain special fields and that in other fields the scarcity of doctors is most striking. There is one field of medicine which has been so neglected that doctors with no special training or aptitude are regularly requisitioned for the work or seek appointments in the field through political influence for the sake of the regular income which it affords. This neglected specialty is Public Health Work.

We feel that the importance of the Health Officer's contribution to society has not been properly recognized. Special training courses for "career men" are available at the Rockefeller Institute and at certain other institutions. Any licensed physician may obtain at a minimum of expense a thorough training in the technical aspects of Public Health Adminstration. Progressive communities all over the country either have established or desire to establish full-time County Health Units. In many instances they find it practically impossible to secure the services of a well-trained Health Officer who is willing to devote his entire attention to the work.

It is our feeling that the attention of young men who are studying medicine should be directed to this field by their medical preceptors. In order to make the position of Health Officer more desirable, the office should be removed from political control and appointees should be selected upon a merit basis. At the present time, one hears a great deal about a national campaign for the suppression of syphilis. The general public is keenly aware of the value of preventive treatment for the common contagious diseases. The medical profession is in full accord with all of these progressive ideas but on the other hand, it does not look with favor upon the possibility of having these measures carried out under a system of State Medicine. We need intelligent, well-trained Health Officers in every county of every state, who are aware of the great possibilities for good in their particular field. At the same time, we need men who have the medical point of view, who will be willing to work in harmony and cooperation with the medical practitioners of their communities.

President.

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COMPENSATION CLAIMS

Disputes between the Compensation Department and individual physicians over bills for services rendered injured workmen are frequently referred to the Association's Compensation Advisory Committee for adjudication and settlement. In a study of claims referred to the Committee, it is interesting to note that more than three-fourths of all misunderstandings involve slight injuries followed by severe infections.

A typical case is one wherein a workman receives a hand injury which becomes infected. The attending physician applies daily dressings, but the infection spreads and eventually a finger is amputated. Perhaps a second amputation becomes necessary. Drains are applied, wet packs are instituted, repeated x-ray studies are made for further involvement and finally, after several weeks or months, the hand is saved.

Generally the first intimation received by the Compensation Medical Department of the nature of the above case is when the attending physician sends in his bill. To the uninformed Compensation Medical Department, the case is nothing more than a simple injury of the hand. Yet the bill rendered is often for more than the fee allowed for a fractured femur or a hip amputation. The Medical Department, unacquainted with the facts, slashes the bill to conform to the fee schedule. The doctor, who has rendered excellent service, refuses to accept the compensation check. Eventually these cases reach the Association's Advisory Committee and a settlement is worked out.

In a recent conference on compensation problems with the Advisory Committee, Dr. G. C. Schoolfield, Compensation Medical Director, requested that bi-weekly reports be made by all doctors who are called upon to treat unusual cases that will involve more than the fee schedule allowance for the injury. He pointed out that such reports would acquaint his department with the difficulties encountered by the attending physician and that there would be no disposition on his part to question any reasonable bill in keeping with the services rendered. He stated, however, that in the absence of any unusual indications it was incumbent upon his department to reduce all bills to conform to the compensation fee schedule.

The Association's Compensation Advisory Committee is in full accord with the suggestion made by Dr. Schoolfield and urges every Association member to make such bi-weekly reports to the Compensation Department whenever unusual conditions are encountered that require an excessive amount of care and attention. If the suggestion is followed, the committee feels that its arbitration work will be reduced fully fifty per cent.

OBSTETRICAL NUMBER

The November issue of the WEST VIRGINIA MEDICAL JOURNAL will be the "Obstetrical Number." This will be the first issue the JOURNAL ever devoted entirely to the subject of obstetrics. Suggestions for this special number will be greatly appreciated. The Publication Committee would particularly like to hear from members who are specializing in or who are specially interested in obstetrics.

Scientific papers, dealing with obstetrical subjects, have been gathered during the past four months for this number. Many of these papers were selected from the annual meeting of the West Virginia Obstetrical and Gynecological Society held at Clarksburg.

MATERNAL MORTALITY DECLINE

There has been a continuous decline in maternal mortality in the United States since 1929, according to the August Bulletin of the Metropolitan Life Insurance Company. The decline has been approximately 17 per cent in the past six years, indicating that the campaign to safeguard the lives of mothers against the perils attending pregnancy and childbirth is bearing fruit.

While the campaign to reduce maternal mortality has been waged for the past 25 years, it has only been within the last few years that definite statistical evidence of its progress has become availabel. Up to 1929 there was no evidence of progress against the causes of our high maternal mortality rate. In 1915 there were 61 deaths of mothers per 10,000 live births in the United States Birth Registration Area; in 1929 there were 70 such deaths; then followed a continuous drop culminating in 1935 in a maternal mortality rate of 58 per 10,000 live births. This is the lowest rate ever recorded in this county.

According to the Metropolitan Bulletin, an important characteristic of the decline, since 1929, is the fact that it has extended to every broad geographical division of the country. Twenty-one states have reported significant declines during the period, 24 states have reported slight declines and in only one state has there been a small rise.

Statistics for the different types of puerperal diseases reflect the favorable results that have been obtained. Deaths of mothers from puerperal albuminuria and eclampsia have been reduced more than one-third in the United States since 1930, while most other causes of maternal deaths, including puerperal septicemia, have declined at least 10 per cent. Since most of these gains have been effective against diseases and conditions known to be especially susceptible to amelioration through prenatal care and skilled delivery, it is felt that they are the direct result of the campaign against maternal mortality.

JOURNAL CRAFTSMEN

Printing and publishing the WEST VIRGINIA MEDICAL JOURNAL was the subject of an article appearing in the September 13 issue of the *Charleston Gazette*. The article was sponsored by the Woodyard Commercial Printers, JOURNAL publishers, and dealt with the JOURNAL in much the same manner that a doctor would discuss an interesting case. The article discussed the difficulty of setting type on "jaw-breaking medical terms," the intricacies of make-up and of other problems pertaining to the publication of a scientific monthly.

Reger and Williams

Of interest to JOURNAL readers is the picture at the left, showing the two craftsmen who are largely responsible for the JOURNAL's physical appearance. Seated is Al Reger who sets the type and struggles over medical terms. Standing in Ray Williams who has done the make-up work on the JOURNAL since he started in as an apprentice more than 10 years ago. We are glad to present to our JOURNAL readers these two important contributors to scientific medicine in West Virginia.

TWO BITS A BLOOD PRESSURE

In an opinion handed down on July 22 by the Supreme Court of New Jersey, it was held that blood pressure is not a disease and that its determination is not restricted by law to physicians. The case was that of one Max Plager who takes blood pressures of customers in a boardwalk concession at Atlantic City. Action against Plager was brought by the New Jersey Board of Medical Examiners and he won the case on his contention that he did not give medical advice.

If two-bit blood pressures are available on the Atlantic City boardwalk, it is reasonable

to assume that enterprising concessionaires will soon employ other medical gadgets with which to beguile shore vacationists. If blood pressures can be sold by itinerant peddlers, what about dental x-rays, laboratory tests and fluoroscopic stunts? These and other devices of scientific accuracy, advertised by a good sideshow barker, would provide a liberal return.

The whole business is, of course, a sucker racket. It should be considered in no other light, A two-bit blood pressure is something an amused tourist will buy and which, in all probability, he will take no more seriously than his photograph behind the wheel of a painted canvas yacht. The same spirit of skylarking which sells two-bit blood pressures also sells the telling of fortunes, palmistry, bingo, weight guessing and night club floor shows. The principal harm is to the pocketbook.

We don't condemn the New Jersey Board of Examiners for going after Plager. They did just what any other reputable and efficient board would do. The unfortunate part of this whole matter is that they lost their case. Thus Plager may continue his blood pressures with sufficient free advertising behind him to jump his price to fifty cents.

NO GOOD, HUH!

"Hospitiology" is a neologism. A neologism is a new word or phrase introduced into a language. The donor of "hospitiology" is Dr. J. J. Golub of New York, who gave his new word to the world through the columns of *Hospitals*, official publication of the American Hospital Association. Hospitiology is derived from the Latin word "hospitium" meaning a place where a guest is received. Well, what won't they think up next?

In a special communication to the WEST VIRGINIA MEDICAL JOURNAL, Dr. Golub stated that he would "welcome a frank opinion concerning the new word." Well, Doctor, we don't think much of it. It's not bad, understand. There are plenty of words worse than hospitiology. But we're just old-fashioned and it usually takes us around 10 or 12 years to get around to these new-fangled ideas. We still say "rheumatism" instead of "arthritis" and "fall sores" for "impetago." That will give you an idea of what you are up against when you ask for an opinion on a matter of this sort.

Our chief objection to "Hospitiology" is that it sounds like something a patient is going to get a dose of. There's just a question in our mind how much more of this sort of thing these patients are going to put up with. During the past 20 years we have given them neologisms for consumption, cat boils, seven year itch, misery and night sweats. Well, doctor, maybe they'll take hospitiology and maybe they won't. Down here in West Virginia we're just going to beat around the bush on this new word until we see what happens to it. If it takes hold, we'll pick it up next year.

We do have one suggestion, doctor, that we think of value. If you really want your new word to be picked up and widely used, all you have to do is mention it at the next gathering of professional social workers. Social workers love neologisms. They can spread one over the entire United States in a fortnight. And that's a lot more than we hospitiologists can ever hope for.

TWENTY-FIVE YEARS AGO

(From the Journal of October, 1912)

STATE NEWS

The following resolution was adopted by the State Board of Health at the meeting in Charleston, in July. We commend the Board for its efforts to raise the standard of medical education, and hope the medical colleges will take notice.

"*Be it Resolved,* That the State Board of Health of West Virginia will not recognize candidates for examination who have graduated after July, 1913, from any college, school, or university whose standards are less than those recognized in Class A and B of the Council on Medical Education of the American Medical Association."

We are glad to know of the organization of a live society in Upshur County. An account of the

organization will be found under Society Proceedings.

In the Bulletin of the Medical College of Virginia we find the name of T. N. Broaddus, M. D., as Instructor in Physiology; Clinical Assistant in Practice of Medicine; Clinical Instructor in Gynecology. T. N. was for several years a hustling pill roller in the Wallace Pharmacy, Wheeling Island. We congratulate you, Wash, on this evidence of your success.

Ex-President T. W. Moore of Huntington, recently read a paper before the American Academy of Ophthalmology and Oto-Laryngology. We hope to have it for publication in the JOURNAL.

The editor recently enjoyed a short visit from the ever-youthful Dr. C. H. Maxwell of Morgantown.

Dr. J. W. Rife, of Wayne, has moved to Kenova and is associated in practice with Dr. T. N. Goff.

Dr. W. E. Neal of Huntington, was recently married to Miss Susan Witten. We wish for the young people great joy.

We extend to our worthy colleague, Dr. L. D. Wilson a glad welcome home from his two months' visit to the Pacific coast cities. He arrived home on the 2d of the month.

Dr. C. A. Wingerter has just returned home from a six week's postgraduate course in nervous diseases at Fordham University, New York.

* * * *

The following doctors were examined and licensed July 8, 9, 10, 1912:

W. W. Orr, Independence; H. S. Keister, Chiefton; E. R. Cooper, Auburn; C. O. Post, Clarksburg; S. J. Morris, Morgantown; M. I. Mendeloff, Blakeley; J. K. Guthrie, Romney; L. O. Schwartz, Tarentum, Pa.; P. C. Spangler, Thorp; A. U. Tieche, Mechanicsburg; H. G. Camper, Welch; T. L. Harris, Hedgesville; W. L. Peck, Riley; J. O. Hill, Logan; R. A. Ashworth, Anawalt.

* * * *

THE MEDICAL SOCIETY

The leaders in medical thought are the men who have made it a part of their professional duty to attend medical meetings. There they have listened to the best efforts of successful men, have compared their own works and results with the authors of the papers and have silently promised themselves that better work in the future would be their daily endeavor.

UPSHUR COUNTY SOCIETY

On September 26, Dr. C. O. Henry, president of the State Medical Association, made a visit to Buckhannon and presented to the Upshur County Medical Society its charter. The doctors of Upshur were pleased to meet Dr. Henry and appreciated his timely remarks on that occasion.

They hope to have him again soon.

The following officers were elected:

President, S. C. Rusmissel; vice president, L. H. Forman; secretary, Oscar B. Beer; treasurer, C. E. White.

We hope to enroll all the doctors in the county in a short while.

OSCAR B. BEER, *Secretary*.

OBITUARIES

DENNIS L. HILL

The death of Dr. Hill occurred September 19, 1937 in a Beckley Hospital after a long illness. He was born in 1890.

Dr. Hill practiced medicine in and around Wickham, West Virginia, for many years. He was graduated in medicine from Chicago Medical College in 1920 and received his West Virginia license in 1922. Dr. Hill specialized in obstetrics and gynecology.

At the time of his death, Dr. Hill was serving his eighth two-year term as Mayor of Mabscott. He was a member of the Raleigh County Medical Society and the American Medical Association.

DR. ROBERT W. SAYRE

Dr. Robert William Sayre of Point Pleasant, West Virginia, passed away September 18, 1937. Dr. Sayre was forty-five years of age. He was president of the Mason County School Board and County Health Officer. His death has saddened his many friends and acquaintances in Mason County.

Dr. Sayre obtained his early education in Parkersburg, West Virginia, and obtained a degree in medicine from the National University of Arts and Science, St. Louis, Missouri, in 1915. He served in the U. S. Army Medical Corps during the World War.

Dr. Sayre is survived by his widow, two children, his mother and one brother.

DR. MAURICE H. MAXWELL

The death of Dr. Maxwell occurred September 7, 1937 at his home in Keyser, West Virginia. He was born September 18, 1883 in Frederick County, Maryland. His medical education was obtained at George Washington University, Washington, from which he was graduated in 1908. He became a member of the Medical Association in 1911 and since that time has never broken his connections with organized medicine. He did general practice in and around Keyser for many years and was formerly located at Thomas, West Virginia.

Dr. Maxwell was, to his friends and acquaintances and to his many confreres, a beloved figure. He was always kindly and responsive and especially alive to his civic obligations and to the claims of the poor. He was a notable figure in his community and his life was one of service to his fellowman.

COUNTY SOCIETY NEWS

CABELL SOCIETY

Dr. R. M. Wylie, president, presided at the first fall meeting of the Cabell County Medical Society held on September 9, 1937 at the Prichard Hotel, Huntington, at 8:30 p. m.

The attendance was good and much interest was displayed in the scientific program which consisted chiefly of a motion picture film entitled "The Technique of Anesthesia."

During the business session plans were discussed for the fall programs.

CHAUNCEY B. WRIGHT, *Secretary*.

KANAWHA MEDICAL SOCIETY

The regular September meeting of the Kanawha Medical Society was held at the Daniel Boone Hotel, Charleston, September 14, 1937 at 8:15 p. m.

Dr. H. H. Trout of Roanoke, Virginia, presented a paper, illustrated by moving pictures, on the subject of "Varicose Ulcers." This was discussed by Dr. J. E. Cannaday, Dr. B. H. Swint, and Dr. W. A. Thornhill.

An important business meeting followed. The proposed Medical Service Plan between the Medical Society and the employees of the DuPont Company at Belle was presented for final action. Several other matters of business were also presented and voted upon.

CLAUDE B. SMITH, *Secretary*.

LOGAN COUNTY

The Logan County Medical Society held its first Fall meeting at the Aracoma Hotel on September 15 at 8:00 p. m. We had as guest speakers Dr. F. O. Marple and Dr. W. C. Kappes of Huntington. Dr. Marple gave a very practical talk on "Some Personal Observations About Sinus." Dr. Kappes gave a talk on "Appendicitis" summarizing the results and treatments of the cases operated in his practice.

At the business meeting, Dr. John Witten Yost, Jr., of Holden and Dr. Fred V. Gammage of Logan were admitted to membership.

J. L. PATTERSON, *Secretary*.

MONONGALIA COUNTY

A meeting of the Monongalia County Medical Society was held in the Marine Room, Hotel Morgan, Morgantown, at 6:00 p. m., September 7, 1937. After a pleasant dinner hour and some business discussion the scientific program was presented.

Dr. John R. Simpson of Pittsburgh, Pa., was the principle speaker. His subject was "Some Points in Ear, Nose and Throat Work of Interest to the General Practitioner." The discussion following this presentation was interesting and general.

G. R. MAXWELL, *Secretary*.

OHIO COUNTY

The regular monthly meeting of the Ohio County Medical Society was held at the Ohio Valley General Hospital on Friday evening, September 24, with Dr. Walter E. Vest, Huntington, as the guest essayist. Dr. Vest's subject was "The Digestive Mask of Renal Pathology." Dr. Ray Bobbitt, Huntington, opened the discussion on this interesting presentation and was followed by Dr. A. L. Jones and Dr. R. D. Gill, Wheeling. Dr. W. M. Sheppe, president, presided.

The complete schedule of scientific programs of the Ohio County Medical Society for the coming year follows:

October 8—Dr. James T. Rugh, Professor of Orthopedic Surgery, Jefferson Medical College, Philadelphia, Pa.; October 22—Dr. W. J. Dieckmann, (Obstetrics and Gynecology), Associate Professor of Obstetrics and Gynecology, University of Chicago Medical School, Chicago, Ill.; November 5—Dr. A. L. Jones, Wheeling, W. Va. (Urology); November 19—Dr. William F. Braasch, Professor of Urology, University of Minnesota Graduate School of Medicine, Mayo Foundation,

Rochester, Minn.; December 17—Dr. William Middleton, Professor of Medicine, University of Wisconsin Medical School, Madison, Wisconsin.

January 14—Dr. J. H. J. Upham, (Internal Medicine), Dean of Ohio State University, President of American Medical Association, Columbus, Ohio; January 28—Dr. Henry John, (Diabetes) Cleveland Clinic, Cleveland, Ohio; February 11—Dr. Horton Casparis, Professor of Pediatrics; Vanderbilt University School of Medicine, Nashville, Tenn.; February 25—Dr. T. E. Jones, (Proctology), Cleveland Clinic, Cleveland, Ohio; March 11—Dr. Dean Lewis, Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

March 25—Dr. Thomas McCollough, Associate Professor of Otology, Larynology, and Rhinology, University of Pittsburgh School of Medicine, Pittsburg, Penna.; April 8—Dr. Barney Brooks, Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.; April 22—Dr. Frank N. Wilson, Professor of Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan; May 6—Dr. W. James Gardner, (Neurosurgery) Cleveland Clinic, Cleveland, Ohio; June 3—Annual Banquet and Golf Tournament, Wheeling Country Club.

The officers of the Ohio County Medical Society have established as a mark of respect to one of the outstanding members of the Society, the Annual Jacob Schwinn Scientific Lecture. The speaker for this occasion will be chosen each year from the members of the society. Dr. A. L. Jones was chosen by the Jacob Schwinn Study Club as the essayist for 1937-38.

W. C. D. McCUSKEY, *Secretary*.

PARKERSBURG ACADEMY

At the Chancellor Hotel, Parkersburg, September 2, 1937, a delightful dinner was served to the doctors and their wives. Following a pleasant social hour the doctors went into a business session called to order by vice president Doctor L. O. Rose, in the absence of the president. After a few brief remarks by Dr. Rose, business which had accumulated during the summer months was discussed.

The scientific side of the meeting was represented by Dr. J. L. Wade who gave a most interesting talk on the subject "Your Heart and Mine."

A dance honoring the members and their wives followed the conclusion of the scientific session. The attendance was large and marked the beginning of the fall and winter sessions of the Academy.

BERLIN B. NICHOLSON, *Secretary*.

GENERAL NEWS

NEW DOCTORS LICENSED

A total of 56 doctors were licensed to practice medicine in West Virginia at the July meeting of the Examining Board. Of these, 35 were licensed by examination and 21 by reciprocity. The list of those licensed by examination follows:

Doctors Donald J. Feerer, Cabin Creek; W. F. McFarland, Keyser; Leland S. Dillon, Powellton; R. T. Bandi, Wheeling; N. G. Angstadt, Fairmont; Lyle B. Hart, Charleston; H. A. Rich, Parkersburg; M. A. Gaydosh, Jr., Wheeling; E. W. Dodd, Jr., Gary; E. H. Boggs, Morgantown; A. C. Sunseri, Weirton.

Doctors David O. Helms, Bethlehem, Pennsylvania; W. E. Bippus, Wheeling; John W. Yost, Jr., Holden; Claude R. Davisson, Mt. Clare; John P. Brick, Charleston; G. O. McClellan, West Hamlin; Milton M. Farkas, Wheeling; L. N. Strickland, Swandale; T. U. Vermillion, Athens; F. C. Goodall, McComas; R. J. Godbey, Charleston; L. J. Pace, Princeton.

Doctors F. R. Harrison, Chester; R. C. Hatfield, Oceana; P. M. Huddleston, Huntington; S. S. Jacob, Wheeling; M. E. Johnson (col.), Lakin; E. E. Jones, Jr., Mt. Hope; F. R. Miller, Morgantown; Michael A. Santer, Parkersburg; W. R. Strader, Bluefield; H. D. Nester, Cedar Grove; H. R. Hamrick, Buckhannon; F. E. Polen, New Cumberland.

Those licensed by reciprocity were:

Doctors D. F. Predmore, Winona; T. H. Bruce, New Cumberland; Francis L. Coffey, Huntington; Boyce Elliott, Hemphill; F. V. Gammage, Logan; H. H. Golz, Clarksburg; Jay L. Hutchinson, Huntington; L. U. Lumpkin, Elkins; L. H. Mills, Clarksburg.

Doctors John S. Meier, Wheeling; C. E. Morehead, Parkersburg; J. J. Porter, Princeton; Vincenzo Prioletti, Weirton; Ben B. Rader, Monongah; George W. Skaggs, Princeton; Leon O. Spencer, Shinnston; J. O. Warren, Welch; Arnold Wilson, Welch; A. S. Wilson, Beckley; J. F. Williams, Jr., Clarksburg; William B. Wright, Pennsboro.

DR. GEORGE H. SIMMONS

Dr. George H. Simmons, Editor and General Manager Emeritus of The Journal of the American Medical Association, died in St. Luke's Hospital, in Chicago, on September 1, 1937, following an abdominal operation one week earlier.

Doctor Simmons was born in Moreton, England, January 2, 1852. He came to the United States in 1870, and studied at Tabor College in Iowa in 1871 and 1872 and at the University of Nebraska from 1872 to 1876. He received his M.D. degree from the Hahnemann Medical College, Chicago, in 1882 and was awarded the M.D. degree by Rush Medical College, following additional study, in 1892. In 1884, previous to his study at Rush Medical College, he served in the Rotunda Hospital in Dublin. From 1884 to 1899 he practiced medicine in Lincoln, Nebraska.

In 1896 he established the Western Medical Review, acting as its editor, and from 1895 to 1899 he was secretary of the Nebraska State Medical Society and also secretary of the Western Surgical and Gynecological Society. During this early period of his development he gave indications of the editorial genius which was later to bring him worldwide fame. While a freshman in the University of Nebraska he won an important prize for an essay on the sheep industry. At this time he was acting editor of the Nebraska *Farmer*, assistant city editor of the Nebraska *State Journal* and field correspondent of the Omaha *Republican* and the Kansas City *Journal*. With these odd jobs he aided in paying his way through the university and the medical school, and he developed a taste for the use of printer's ink which followed him throughout his life.

In 1899, when the Board of Trustees of the American Medical Association was in search of a secretary for the organization and an editor for its periodicals, a number of leading figures in the medical literary and political world were given consideration. They appeared before the Board of Trustees, many of them with strong endorsements. After long consideration the Board of Trustees chose Dr. George H. Simmons for the position of General Secretary, which he filled from 1899 to 1911, and of editor, which he occupied until 1924. In 1901 he also became general manager. Before its reorganization in 1901 the American Medical Association was not a truly representative body, and the method of administration of its professional affairs and its business were, to say the least, disorganized. When Doctor Simmons became Secretary in 1899 he initiated the movement which led to the appointment of a committee of which Dr. J. N. McCormack of Kentucky was chairman and he secretary to consider ways and means of reorganization. At the meeting of the Association in St. Paul in 1901 the general principles and policies outlined in the Constitution and By-Laws presented by that committee were adopted. The present plan of organization of the American Medical Association is largely due to the work of that committee.

The Journal of the American Medical Association was established in 1883. When Doctor Simmons took over the editorial supervision and management, its total subscription list was approximately ten thousand. From that time it showed continuous improvement. Furthermore, under his leadership it became a significant weapon in the initiation and progress of great movements for the advancement of medical education and medical science.

In 1901 The Journal began the annual publication of information concerning the medical schools of the country. In 1903 it undertook publication of the results of the examinations of graduates in medicine for licensure by state examining boards. The next step was the organization of the Council on Medical Education and Hospitals in 1905. At the same time the Council on Pharmacy and Chemistry was developed, and in association with it the chemical laboratory and the Department of Propaganda for Reform, which eventually became the Bureau of Investigation. Thereafter came other councils and departments which were logically an outgrowth of the developments that have been mentioned.

In the field of publication The Journal was supplemented by the American Medical Directory, which was an outgrowth of the Biographic Department; the various Archives: of Internal Medicine, of Neurology and Psychiatry, of Dermatology and Syphilology and of Surgery; the American Journal of Diseases of Children, and many other publications. It occurred to Doctor Simmons to begin publication of a quarterly cumulative index of leading medical publications as a means of providing physicians with up-to-the-minute references to medical periodical literature in an easily accessible form. The success of this publication was so great that it eventually was combined with the Index Medicus into the Quarterly Cumulative Index Medicus. Hygeia, too, was initiated under Doctor Simmons'

leadership as General Manager. To tell the story of Doctor Simmons' services in the period from 1899 to 1924 is, in fact, to tell the history of the American Medical Association in that same period.

In 1908 he was commissioned a First Lieutenant in the Medical Reserve Corps of the United States Army; in 1917, when the United States entered the war, he was made Major in the Medical Reserve Corps, and served diligently in the Personnel Division. In 1921, by order of President Harding, he was awarded the Distinguished Service Medal.

As an editor, Dr. George H. Simmons was alert and fearless. His attacks on quackery and fraud in the field of medicine brought on his unwearying head and shoulders the counter attacks of those who saw their unscrupulous exploitations exposed and their incomes discontinued. It was his policy never to reply to any of the personal attacks made on him in the course of his service. Innumerable medical writers could testify to the manner in which he devoted himself personally to the education of younger men in editorial technique. His personal writings were few, but much of what he wrote and developed appeared anonymously in the pages of The Journal. His published papers include, however, one on medical education and preliminary requirements, which appeared in The Journal in 1904; one on the American Medical Association, published in The Journal, June 2, 1906; one on the commercial domination of therapeutics and the movement for reform, and another under the title "What the American Medical Association Stands For." In 1914 he read a paper before the Southern Medical Association, entitled "Work of the Council on Pharmacy and Chemistry: Its Effect on Medical Progress"; and as president of the Institute of Medicine of Chicago, which position he held in 1921, he read an address under the title, "Medical Periodical Literature."

In 1924 he resigned as Editor and General Manager of the American Medical Association and became Editor and General Manager Emeritus. At that time a number of leaders in American medicine arranged for the painting of his portrait, which was presented to him at a testimonial banquet in Chicago on June 9, 1924. Hundreds of physicians attended, and he received messages of appreciation and congratulations from all over the world.

This, then, is briefly the record of Dr. George H. Simmons as an executive and an administrator. His work for the American Medical Association was characterized by intelligence, unselfishness, initiative and righteousness. In his personal life he had his share of physical and mental suffering. He weathered storms of unjust criticism and false characterization of his administration. He devoted himself almost objectively and completely devoid of personal interest to the public career which he had chosen. Unquestionably he was the greatest factor in his generation in the development of the American Medical Association and the profession that it represents.

After his retirement he traveled extensively for several years. Since that time he has resided in Florida, but has spent some time every other year in Great Britain and in the intervening years in Chicago, frequently coming to the headquarters office and making available to his successors the experience of years and the brilliant insight which he brought into medical problems. The medical profession of the United States owes him a debt which it could never pay and which he never wished to collect.

A. M. A. RADIO PROGRAM

The American Medical Association and the National Broadcasting Company present each week over the Red network a program of dramatized health messages intended to furnish graphic supplementary material for health teaching in junior and senior high schools. Much of this material is also useful for elementary schools, especially in the higher grades.

The program is broadcast each Wednesday from 2 to 2:30 p. m., eastern standard time.

The program will be presented in nine groups of four programs each, beginning Oct. 13, 1937, and running consecutively through June 15, 1938. Individual programs may be subject to cancelation for national or international emergencies calling for concentration of radio time in imperative public service. In such cases the subsequent dates will not be affected, but the cancelled program will simply be dropped.

The dates and topics of weekly broadcasts follow:

Personal Health: October 13—Learning About Health: introductory, explanatory.

October 20—Growing for Strength and Beauty: favorable and unfavorable factors in growth and the maintenance of normal weight.

October 27—Seeing and Hearing Well: hearing and vision; how to conserve these; how to recognize deviations; how to prevent loss.

November 3—Striving for Better Bodies; so-called physical defects; their recognition; what can be done about them.

Hygiene: November 10—Playing for Fun: health values and hazards in sports and recreation, including football.

November 17—Fresh Air, Fresh Clothes and Fresh Skin: ventilation; clothing; bathing.

November 24—Rest, Relaxation, Refreshment: all work and no play, or all play and no rest—bad for health.

December 1—Tuberculosis, Foe of Youth: how bad habits of hygiene and unwise living, plus infection, favor tuberculosis.

Diet: December 8—It Takes All Good Foods: A well rounded diet and how to get it.

December 15—Milk from Farm to Table: The production, transportation, pasteurization and home care of milk; its place in the diet; processed milks.

December 22—Vitamins, Minerals and Common Sense: More about a balanced diet in special relation to minerals and vitamins.

December 29—Dietary Fads: Facts versus fallacies in relation to prevalent false notions about diet.

Contagious Diseases: January 5—Sneezes and Sniffles: Cause, spread, prevention of colds, pneumonia and influenza; importance of early medical care.

January 12—Scarlet Fever, Measles and Whooping Cough: Modern attitudes toward these diseases; their prevention by community cooperation.

January 19—Smallpox and Diphtheria: Unnecessary diseases; preventable by immunization of infants.

January 26—Poliomyelitis: Information about the disease; cooperation with President's Birthday Ball.

Diseases of Middle Age: February 2—Rheumatism and Arthritis: Known factors in the causation of arthritis and its care.

February 9—Healthy Hearts and Arteries: Known ways of protecting the heart against infection and hygienic abuse; how to live with heart disease.

February 16—Don't Fear Cancer—Fight It: Known factors in the cause, prevention and treatment of cancer.

February 23—Overcoming Diabetes: Individual efforts plus medical aid will win against diabetes.

Public Health: March 2—Water, Waste and Sanitation: Importance of community control of water supplies, sewage disposal and general sanitary matters.

March 9—Protecting Perishable Foods: What the community can and must do to protect fresh foods such as fish, fruits, vegetables, meats, bakery goods.

March 16—Keeping Books on Health: The meaning and the importance of vital statistics, contagious disease reporting and community health records.

March 23—Catching Disease from Animals: Rabbit fever, rabies, undulant fever and similar infections, and what can be done about them.

Health Education: March 30—A Fool for a Day: Fallacies and popular beliefs that are not true and that influence behavior in a manner deterimental to health.

April 6—Living with People: Elements of mental hygiene; getting along with people; adjustment to the environment.

April 13—It May Happen to You: Accidents in the home and on the highway and ways to avoid them.

April 20—Who Chooses Your Doctor?: The characteristics of a reputable physician as distinguished from cults, quacks, fakers, faddists or exploiters.

Mothers and Children: April 27—Healthier Babies: Daily routine of the healthy baby; medical supervision; feeding.

May 4—Healthier Mothers: General advice for the expectant mother; good for boys and girls to know about.

May 11—Hospitals Aid Health: The place of the hospital in the health program of the individual and the community.

May 18—Runabouts, 1938 Model: The preschool child and the health and personality problems of that age.

Using Health Knowledge: May 25—The Health Check-Up: Periodic health examination and what follows, and why.

June 1—Vacation Plays and Misplays: Making the vacation a real contribution to health and recreation.

June 8—Graduation and Then What?: A new phase of life begins at commencement, and health contributes to success.

June 15—What Medicine Offers for Health: Flashes from the American Medical Association meeting at San Francisco, giving highlights of medical progress.

TUBERCULOSIS ASSOCIATION

The Sixteenth Annual Meeting of the West Virginia Tuberculosis and Health Association was held at Parkersburg on October 23 and 24, 1937, with an excellent attendance. Dr. George F. Evans, Clarksburg, is president of the Association and Mr. George C. Rowell, Charleston, is the executive secretary.

Among the principal speakers on the program were Dr. Evans, Mrs. Florence B. Breed, Field Advisor of the National Association; Dr. A. R. Sidell, President of the Academy of Medicine of Parkersburg; Dr. Esmond R. Long of Philadelphia, Past President of the National Tuberculosis Association; Dr. E. E. Clovis, Wheeling; Dr. A. V. Cadden, Superintendent of the Hopemont Sanitarium, and Dr. A. W. Garnett, Director of the State Department of Public Assistance.

HOSPITAL MANAGEMENT

This is the title of a paper by Dr. T. R. Ponton, in *Hospital Management*. He draws the following conclusions:

Rates of pay to employees are not so far out of balance with those in comparable business and industry as is generally supposed, but adjustments are necessary and the result will be an increased payroll.

Costs of supplies are steadily rising and the administrator has no control over this item of increased expenditure.

The management of hospitals is generally as economical and efficient as in other business and industry and no further economies can be practiced without a sacrifice of standards.

The net result is an increased operating cost which cannot be avoided and must be met by increased revenue.

Income from endowments, as well as from contributions and charities, decreased during the depression and has not increased in the same ratio as the advancing costs.

Grants from governmental sources are usually inadequate to pay for the free service demanded and are often not available for the privately owned institution.

Income from earnings must therefore be increased and stabilized to assure at least a cost rate return for all patients treated.

Private room service should be charged for at cost plus a reasonable profit and, with few exceptions, should be refused to those who are unable or unwilling to pay for it. Collection should be as rigidly enforced as in any other business.

Patients in the moderate wage categories should be given adequate care at cost and should be assisted financially by a prepayment or a postpayment plan.

The care of the indigent in hospitals is a community responsibility and the community must furnish sufficient funds to pay for the services actually rendered. This is best provided through taxation.

The voluntary hospital caring for the indigent patient has as great a claim on the community for support of these patients as has the government-owned hospital. The amount of such support should be on a basis of fair valuation of services rendered.

MEDICO-MILITARY TRAINING

The ninth annual training course for Medical Department reservists of the Army and Navy will be held at the Mayo Foundation, Rochester, Minnesota, October 3 to 16, 1937.

This training course was first inaugurated by the Seventh Corps Area at the request of the Mayo Foundation to give training in military medicine to the young medical men connected with the foundation. Other reserve officers requested permission to enroll and to take advantage of the opportunity to attend the clinical presentations during the morning hours. Such permission was granted and attendance has become so increasingly popular that it is now necessary to limit enrollment.

The program will follow the plan of past years. The morning hours will be devoted entirely to professional work in special clinics and study groups. Officers in attendance may select the course they wish to follow from the wide variety of presentations offered. The afternoon and evening will be devoted to a medico-military program under the direction of the Surgeon of the Seventh Corps Area (Army) and the Surgeon of the Ninth Naval District (Navy).

This training is on an inactive duty status and is without expense to the government. Enrollment is open to all Army and Navy reservists of the Medical Departments in good standing. Applications should be submitted to the Surgeon of the Seventh Corps Area, Omaha, Nebraska, or to the Surgeon of the Ninth Naval District, Great Lakes, Illinois. Enrollment is limited to two hundred.

The Surgeons General of the Army and Navy have signified that they will attend and it is believed that the Surgeon General of the Public Health Service will also appear on the program.

INTERNATIONAL ASSEMBLY

The International Assembly of the Inter-State Postgraduate Medical Association of North America, under the presidency of Dr. John F. Erdmann of New York, will be held in the beautiful new public auditorium of St. Louis, Missouri, October 18, 19, 20, 21 and 22, with pre-assembly clinics on Saturday, October 16 and post-assembly clinics, Saturday, October 23 in the hospitals of St. Louis.

The aim of the program committee, with Dr. George Crile as chairman, is to provide for the medical profession of North America an intensive postgraduate course covering the various branches of medical science. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selection of the contributors and the subjects of their contributions.

The St. Louis Medical Society will be host to the Assembly and has arranged an excellent list of committees who will function throughout the Assembly.

A most hearty invitation is extended to all members of the profession who are in good standing in their State or Provincial Societies to be present. A registration fee of $5.00 will admit each member to all the scientific and clinical sessions.

For further information, write Dr. W. B. Peck, Managing Director, Freeport, Illinois.

ANNUAL HOSPITAL MEETING

West Virginia hospital administrators and medical and nursing staff members, representing more than fifty institutional members of the Hospital Association of West Virginia will meet in Wheeling, October 7 and 8, when the Hospital Association holds its twelfth annual convention. Convention headquarters will be the Hotel Windsor, and all general sessions during the convention will be held there.

The first general session will be held Thursday evening, October 7, beginning at 7:30 p. m., but prior to that session the afternoon will be devoted to sectional meetings. Nurses' superintendents will hold a joint meeting with the State Board of Examiners for Nurses in the solarium of the Wheeling Hospital from 2 p. m. until 5 p. m., and, at the same hours another sectional meeting will be held in the solarium of the Ohio Valley General Hospital by group hospitalization executives and other hospital people interested in the development of prepayment hospital insurance plans. Dr. C. Rufus Rorem, Chicago, consultant on group hospitalization for the American Hospital Association, is to lead the round table discussions at the group hospitalization sectional meeting.

Following a short business meeting, the Thursday evening, October 7 session, will be featured by the annual address of the association president, to be delivered by Charles C. Warner, retiring president.

Friday morning and afternoon sessions, October 8, will be devoted to the consideration of problems of general interest to hospital people. A paper on the subject, "Hospital Records—Their Importance and Usage," will be read by J. Stanley Turk, superintendent of the Ohio Valley General Hospital, Wheeling, and the discussion will be led by Dr. D. L. Hosmer, Bluefield Sanitarium, Bluefield. Dr. Donald L. Butterfield, Charleston, medical advisor to the State Department of Public Assistance, will discuss "Public Welfare Administration and the Hospitals," stressing particularly the relationship between the hospitals and the State's welfare agencies under the new indigent care and physical rehabilitation programs, and contemplated changes in the State's crippled children's program. Dr. G. C. Schoolfield, recently appointed medical examiner for the State Compensation Department, will be a speaker at the Friday morning session also, and Dr. R. H. Dunn, of the Dunn Hospital, South Charleston, will present a paper at the Friday morning meeting on the subject, "The Automobile Accident Problem—What Is To Be Done About It?" G. S. Strader, Jr., of the St. Luke's Hospital, Bluefield, will lead the discussion.

"Personal Welfare and Administration," will be the subject of a paper to be presented by B. B. Dickson, of the Stevens Clinic, Welch. C. F. Runyon, of the Charleston General Hospital, Charleston, will lead the discussion. Mr. Dickson's paper will be the opening feature of the Friday afternoon session, which will be devoted principally to consideration of the personnel problem as it relates to developments in the field of organized labor.

The annual business meeting, at which time officers for 1938 will be elected, will be the concluding feature on the Friday afternoon program.

Rt. Rev. Msgr. Maurice F. Griffin, Cleveland, a trustee of the American Hospital Association, and a former president of the Catholic Hospital Association, and Dr. W. S. Fulton, Wheeling, president of the West Virginia State Medical Association, will be guest speakers at the annual conven-

tion banquet, to be held at the Hotel Windsor, Friday evening, October 8. A dance in the Windsor ballroom will be the concluding convention feature.

The annual meeting of the board of trustees of the Hospital Association will be held at the Hotel Windsor, Thursday, October 7, at 12:30 p. m.

FROM OTHER JOURNALS

BEWARE OF SWINDLERS

By Frank J. Clancy, M. D.
Director, Bureau of Investigation
American Medical Association, Chicago, Illinois

Hardly a week passes that the Bureau of Investigation of the American Medical Association does not receive a letter of distress from some physician, detailing his experience with a fraudulent instrument repair man, subscription agent, clothing or shoe salesman, impostor impersonating a physician, health insurance faker, fraudulent insurance salesman, forger or counterfeiter. Few of the schemes are new or novel. The same old gags go on with monotonous regularity, in spite of warnings from Better Business Bureaus, state medical journals and The Journal of the American Medical Association.

The story usually goes like this:

"On blank date of this year, I was called on by a man giving his name as 'Joe Doaks,' who stated that he was a salesman for the So-and-So Products Chemical Company, located at ..... He had a display of instruments, rubber gloves, etc. I noted that he had taken orders from several physicians in such-and-thus cities. He offered 10 per cent discount for cash. I gave him an order and foolishly a check for same, amounting to $..... I have never received the order. I have written two letters to the So-and-So Company, but have received no reply. I received the cancelled check, showing it was cashed . . . I would appreciate it very much if you can give me the address of the company . . . and further advice . . . I now realize that it was a foolish move on my part . . ."

In this particular case The Journal had previously published an article on the swindle, giving the swindler's name and the name of the nonexistent company as reported by a physician who had been a victim.

A recent variation of the fraudulent book salesman swindle was reported to the Bureau of Investigation:

"This man is taking subscriptions to Esquire and Vogue Magazines for $5 a year and offering as a premium one of three medical books. He uses a large sales slip bearing the name of the Atlas Sales Company, 1020 Walnut Street, Philadelphia. My check made out to this company was cashed at a local garage. A letter addressed to the company was returned unclaimed.

"This man uses the name of W. D. Kitchins. He is about 45 years of age, five feet, eight inches tall, weight about 130 pounds, and is a very clever salesman. No doubt other doctors nearby have fallen for his racket. He should be turned over to the authorities if accosted."

Another variation of the same scheme is as follows:

"A man representing himself to be Robert Warren of Warren Bros. Surgical Instruments and Repair, 3521 Grand Avenue, St. Louis, Mo., called at our place May 8. He carried away some scissors and collected for the repair. He collected a small bill on some merchandise that was to come separately and took an order for a few other items.

"When these things did not come, we started to investigate, and we found there was no such concern in St. Louis. This man was about 50 years old, rather prominent features, and would weigh around 125 pounds. He claimed to be in the employ of Kny-Sherrer for a number of years, but went into business with his brother some time ago, in St. Louis. He is thoroughly familiar with the instrument business and has a wide, intimate knowledge of the eye, ear, nose and throat men, especially east of the Mississippi river. If you have any idea as to the identity of this man and can suggest how to locate him, we would appreciate it very much."

Physicians, as a group, are no more gullible than other individuals. Their weakness lies in the fact that they are too busy during office hours to give sufficient consideration to problems other than those of their practice. Stopping a few moments between patients to half-listen to a swindler's story, and hurriedly paying in advance in order to get back to a waiting patient, make them made-to-order victims for the swindler. Practically all swindlers depend on the chance that the victim will not take the time or trouble to investigate before turning over his cash.

Physicians should be suspicious of unknown colleagues from distant cities who are temporarily out of cash. Such individuals should be looked up in the Directory of the American Medical Association. In major cities the public libraries and prin-

cipal hotels usually have out-of-town telephone books. Before you cash that check, it would be well to call your principal hotel and ask the operator to look up in her out-of-town phone directory the address and telephone number of the physician in distress. If the swindler is using the name of an established physician, ask him for his telephone number and see if it checks. *Bona fide* physicians with a bank account should know how to get a check cashed through commercial channels. Don't be taken in by flattery or imposing credentials.

If you have instruments to be repaired, let the local supply house or instrument man do the job. He is spending his money in your community and no doubt needs the work. If your city is too small to support an instrument house or a medical book store, write direct to the instrument house or publishing company, as such companies will usually send goods C.O.D. or on credit. But if you insist on purchasing instruments and books and insurance from itinerants, have them sent C.O.D., subject to your approval.

1. Don't cash checks for strangers.
2. Don't cash checks for unknown physicians.
3. Don't buy books, instruments or insurance from itinerant peddlers.
4. When in doubt, call your Better Business Bureau.
5. If uncertain, telegraph the Bureau of Investigation of the American Medical Association, 535 North Dearborn Street, Chicago, Ill.—*Wisconsin Medical Journal.*

CALCIUM AND THE TEETH

Much nonsense has been perpetrated regarding food deficiency and diseases connected with it. This statement has been made before and it would be unnecessary to repeat it but for the fact that the nonsense continues even among the medical profession. For example, as an editorial in the *Journal of the American Medical Association* recently pointed out, calcium is still being given in large quantities to those with dental caries and to pregnant mothers on the assumption that a deficiency in this element exists in their conditions. It seems pretty well established that when an average well-balanced diet is available calcium therapy is never necessary, and that when imbalance so far as calcium is concerned does exist milk represents the

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best method of making good the deficiency. This does not mean that there is no relationship between dental caries and calcium metabolism but that other important factors affect the relationship. In fact the addition of vitamin D during pregnancy seems to be of more importance than increasing the intake of calcium or phosphate.—*Virginia Medical Monthly.*

MARRIAGE AGE FOR CHILDREN

Where the common law applies boys, age 14, and girls, age 12, are considered able to give valid consent to marriage. In discussing the various minimum ages of consent to marriage, a legal authority states that: "Differences of climate and physical temperament . . . make the rule of nature, in this respect, a fluctuating one." Modern social thought would hardly sanction the early marriage age of the common law; but there are still a few states that have no statute defining the minimum ages for marriage, and in a few others the courts have interpreted the statutes which attempted to raise the marriage age as not abrogating the common-law age.

The minimum marriage age has been raised by statute above the common-law age in 39 states and the District of Columbia. The statutory minimum marriage age varies with a few exceptions from 16 to 18 for boys and from 14 to 16 for girls. The highest statutory minimum age is found in New Hampshire, where it is 20 for boys and 18 for girls.

In connection with requirements for issuing a marriage license, most of the statutes provide that until a child reaches a certain age the consent of his parents or guardian must be obtained before a license may be issued. The age usually corresponds to the age of reaching majority. Georgia and Michigan make such a requirement only for girls, and in a few other states boys as young as age 18 may be married without the consent of their parents.

Fifteen states have recognized that under certain conditions it may be desirable to permit marriages below the statutory minimum marriage age, but have safeguarded such marriages by requiring judicial consent in addition to parental consent. Judicial consent is also required above the minimum marriage age in New York for girls, ages 14 and 15,

(Continued on page xxiii)

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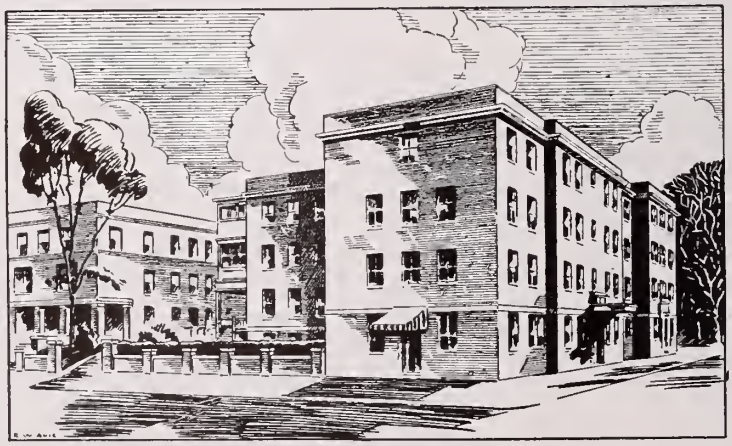

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(Continued from page xx)

and in Vermont for boys, ages 16 and 17, and girls, ages 14 and 15.

Under the common law, marriage of a child before reaching the age of consent (14 and 12) created a voidable matrimonial status, which could be disaffirmed by the child on reaching the age of consent (but not before). The modern judicial view in some states is that the marriage of a child under the legal minimum age for marriage (either the common-law age where this is still accepted, or a higher minimum marriage age fixed by statute) is voidable and may be disaffirmed by the child concerned either before or when he reaches the age of legal consent to marry. Some states clarify this situation by declaring void any marriage entered into below the statutory minimum marriage age. In the existing law for the District of Columbia Congress has declared that a marriage "shall be illegal, and shall be declared void from the time when (its) nullity shall be declared by decree (of the court), namely: When either of the parties is under the age of consent, which is hereby declared to be age 16 for males and 14 for females."

The belief that the marriage of a child without the consent of its parents is also void or voidable is apparently erroneous. The weight of judicial authority is that such a marriage is legal and cannot be annulled if the ages of the boy and girl are above the minimum marriage age.—*Pennsylvania Medical Journal.*

HOSPITAL INSURANCE PLANS

Out of 172 group hospitalization and hospital insurance plans recently addressed by the Bureau of Medical Economics of the American Medical Association, 90 were found active and 82 inactive. Of the active plans, 56 were found to be operating and 34 in the state of established proposals. Fourteen new plans have recently been proposed. Thus the present status may be defined as one of active experimentation in an effort to find out the workable features and thus maintain systems capable of meeting existing needs. Various investigations indicate that somewhere between 500,000 and 700,000 persons are now members of such plans. Incidentally, three plans have 50 per cent of the entire membership, and 10 plans have 80 per cent of the entire membership.

In Chicago, the plan proposed through the Hos-

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pital Council involved the setting up of a hospital service corporation as a non-profit corporation, organized under the Illinois act exempting a non-profit service corporation from the insurance code of the state. This plan has been under active consideration by a committee of the Chicago Medical Society, which proposed six requirements before it could place the approval of the Chicago Medical Society on the plan. Of these, the chief demand is that all matters of medical administration and medical policy be referred to the Chicago Medical Society, whose decision in these instances shall be final and binding both on the Chicago Hospital Council and on its member hospitals. Unfortunately, the Council of the Chicago Medical Society has not yet accepted the report of its committee, owing to the apparent insistence of one of its members that the medical society not enter into the arrangement unless it has a guaranty of 51 per cent of the directorate, an insistence to which the Hospital Service Corporation may hesitate to consent.

It is interesting to realize that Chicago has already had 10 group hospitalization plans besides the Hospital Service Corporation, not one of which has attained even slightly significant proportions. Two of these plans were organized under the same law that created the Hospital Service Corporation and both secured articles of incorporation notwithstanding the fact that they were promoted by hospitals considered to be unable to give first-class service. Another unfortunate aspect of the situation is the fact that the propaganda and promotion associated with the Hospital Service Corporation have brought into the field various unethical imitators, one of them advancing himself by the circularization of the public in his vicinity with a schedule labeled the Chicago Hospital Service Plan, a vague imitation of the proposition advanced by the Hospital Service Corporation. It will apparently become the obligation of those who actively promote such plans under legitimate auspices to protect the public at the same time against illegitimate promoters, through exercising the rights of any business group to the protection of their names and style in the courts.—*Jour. A. M. A.*, Jan. 30, 1937.

There is no question but that a critical analysis of the American diet should be considered in the cause and cure of cancer, but this may take many years and a good deal of patience.—*Hygeia.*

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Dr. Eliot D. Hutchinson considers the cause and effect of poor reading in his article "Speeding Up Your Reading" in the September *Hygeia*. Failure in reading may produce the same symptoms of maladjustment as failure in any other field of activity.

Modern laboratory psychologists have of late developed instruments for accurately photographing these fleeting eye movements on motion picture film. Furthermore, apparatus has also been developed for correcting some of the disabilities thus discovered, first by remedying defective vision and poor muscular coordination and second by inculcating habits of rhythmic reading.

In reading, the eyes travel together across a line of print, not smoothly and without interruption as might be supposed but by fixating successive points.

TUBERCULOSIS ABSTRACTS

(Continued from page 471)

but there are also new developments in diagnosis and treatment which make the control of tuberculous transients, even in the absence of adequate beds, more workable than some years ago. For example, collapse surgery enables the otherwise bedridden patient to carry on light work, and this treatment also renders him bacillus-free which means that he promptly ceases to be a danger to others. Fifty per cent or more of all tuberculous patients can be successfully "collapsed," and so-called ambulatory pneumothorax treatment is now an accepted procedure. There are furthermore better methods of case-finding. It would not be Utopian to propose that all transients be x-rayed, which would lead to the discovery not only of obvious cases, but also of those in the earlier stages who by prompt action could soon be restored to health.

"No home is safe until every home is safe," is an old slogan used by tuberculosis associations. Until we have come to grips with the tuberculous transient, we cannot hope to guarantee safety to the rest of American citizens.

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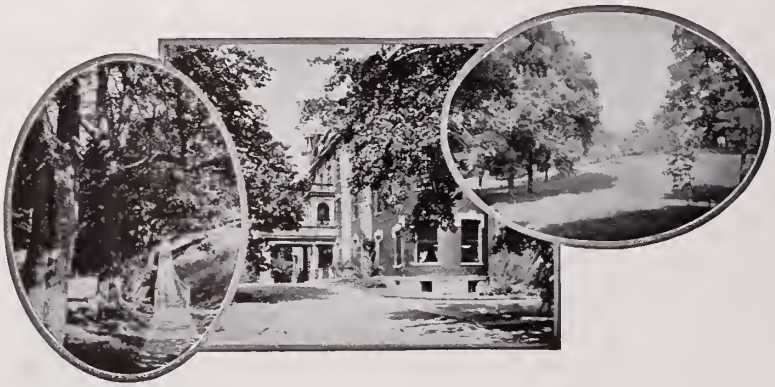

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By means of a special measuring apparatus Simpson and Simon (Am. J. Pharmacy, 109:343, July, 1937) determined the average amount of 'benzedrine' (benzyl methyl carbinamine, S. K. F.) inhaled from a therapeutic dose with 'benzedrine inhaler'. The greatest amount obtained from two inhalations in each nostril (the recommended dosage) was 0.67 mg. and the smallest amount 0.09 mg. The average of the 90 tests made was 0.2 mg.

On this basis it would require 315 inhalations at one time to equal the average oral therapeutic dose of 20 mg. of 'benzedrine sulfate'. Natural loss of 'benzedrine' through exhalation might further widen the margin of safety.

STOLEN—Spencer Microscope, distributed by A. S. Aloe Co., St. Louis, stolen from Dr. Ralph Hogshead, Montgomery, W. Va., Thursday, September 23. Number on right hand side of base of microscope o79264. Any information leading to the recovery of this instrument will be deeply appreciated.

OBSTETRIC EXAMINATION

The next examinations (written and review of case histories) for Group B candidates for the American Board of Obstetrics and Gynecology will be held in various cities of the United States and Canada on Saturday, November 6, 1937, and Saturday, February 6, 1938. Application for admission to these examinations must be filed on an official application form in the office of the secretary at least sixty days prior to these dates.

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, California, on June 13, and 14, 1938, immediately prior to the meeting of the American Medical Association.

Application for admission to Group A examinations must be on file in the secretary's office before April 1, 1938.

For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, Pa.

Whenever the child resorts too often to lying as a form of behavior it is well to pause and try to consider other aspects in his life.—*Hygeia.*

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VAGINAL BLEEDING IN THE LAST TRIMESTER OF PREGNANCY*

By Norris W. Vaux, M. D.
Philadelphia, Pa.

This complication of late pregnancy is not new to the members of the West Virginia State Medical Association, nor is it misunderstood by those of the profession who practice obstetrics either as a specialty or as part of the general practice of medicine. Nevertheless, there are certain factors relative to this complication, which carry with them a definite responsibility for those who are unfortunate enough to encounter this significant obstetrical complication.

In the hope that you may derive at least some benefit from my experience in the diagnosis and treatment of those cases of vaginal bleeding in the last trimester of pregnancy which presented themselves in my clinic and hospital service during the last two years, at the Philadelphia Lying-in Hospital, I can add only certain incidents which may prove helpful. You are all more or less familiar with the literature dealing with this dreaded complication of the latter months of gestation. The recent work of Mackenzie, a statistical study, analysis and summary of 22,115 cases of placenta prævia, which was read before the section on Obstetrics and Gynecology in the New York Academy of Medicine in 1936, was the largest noted in the literature, and was taken from the published reports of the world and from a smaller number of unreported cases. The author's work sets forth clearly, the fact that there still remains a controversy, not only in this country, but throughout the world, as to whether the so-called radical, or the conservative methods of delivery and treatment seem the most beneficial in each case, and quotes, "As a consequence, there is no established treatment for placenta prævia, either in this country or abroad." As is seen further in his statistical study, the substance of my paper also brings to light the worthiness of the so-called radical treatment of bleeding in the last trimester of pregnancy. Although the trend in central European countries has remained approximately the same toward radical treatment, in

*Read before the West Virginia State Medical Association, General Scientific Session, Clarksburg, May 26, 1937.

the United States the incidence of abdominal delivery has increased 32 per cent, while the maternal mortality has decreased about 5.5 per cent. "The results of treatment of placenta prævia in the various countries have been expressed in terms of maternal mortality after delivery by Caesarean section and after delivery from below." In the United States the maternal mortality following radical treatment of placenta prævia was 5.9 per cent, as against 10.8 per cent following conservative methods. Therefore, my own analysis which is to follow, proves conclusively to me, that the more radical treatment has given better results in our hands, over the past two years, than has the conservative methods of previous years.

The recent works of Irving, Kellogg and DeNormandie of Boston, Morton of San Francisco, Schumann of Philadelphia, Ronsheim of Brooklyn, and C. Berkley, clearly set forth the trend of opinion relative to the methods and modes which have proved effective throughout some of the large clinics of this country.

Arbitrarily I have selected the last twelve weeks or three months of gestation for my review and study, and have refrained from placing too much exacting data before you; trying to stress only the important points relative to the occurrence of bleeding in late pregnancy, and the complications involved. The subject matter of this review concerns all individuals whether emergency cases or planned admissions, who presented themselves to our department with bleeding in the last trimester of pregnancy. This includes premature separation of the placenta, placenta prævia (partial, complete, marginal, cervical, low implantation), and a separate and distinct class of "bleeding of undetermined origin."

It is interesting to note that out of 2952 patients, 133 or 4.5 per cent gave positive evidence of bleeding in late pregnancy, but a very small percentage of these were proven cases of placenta prævia or premature separation.

In studying these cases, I have divided the bleeding or hemorrhage occurring during the last trimester into slight, moderate and severe; further noting the character of the bleeding, as to whether it was of a continuous type or occurred in intermittent floodings. It has always been ours, and should be a universal rule, that every case of vaginal bleeding in the last trimester should be considered a manifestation of serious moment which can be properly treated or controlled only within the walls of a well equipped and efficiently staffed institution. Through our own, and the grave experience of others, this fact was emphasized sufficiently to warrant the immediate hospitalization of all individuals who presented this abnormal manifestation, as bed patients probably suffering from one of the most dangerous and life-threatening complications of late pregnancy, until a positive diagnosis and etiological factor could be arrived at.

No matter how slight the bleeding, or of what character, we considered it our duty, upon the admission of a patient with vaginal bleeding, immediately to set about to diagnose, if possible, by all the methods at our command, the site of the bleeding and the etiological factor involved. If no positive findings could be determined previous to delivery, or immediately after delivery, the individual was placed in the undetermined class, to remain in this classification until positive findings and etiology could be definitely determined.

It is rather difficult to admit the fact, yet extremely interesting to discover how many times an error in diagnosis was made in these cases of late gestational bleeding; and mortifying, to say the least, to see how often it became necessary to change our primary diagnosis. We may well return to our teaching as medical students, and to the teaching of the medical students of today, when we find that from the records and histories of these various individuals, there was not one single case of proven placenta prævia in this series which did not give us a history of painless

bleeding. However, we cannot say as much for our teaching when we consider those individuals with proven premature separation of the placenta, which is so often described as "painful bleeding in late gestation." There were a few instances of premature separation of a normally implanted placenta where pain was absent and the case was primarily diagnosed as placenta prævia. Incidentally, after making a diagnosis, we were frequently unable positively to determine the causative factor, and accepted the placental area as the site from which the bleeding originated.

The emergency cases and our assigned or registered individuals have been classed under separate headings, and the types of delivery of both classes have been taken up individually.

The cases complicated by toxemia which showed bleeding in the last trimester were classified separately from those individuals who gave no evidence of toxemia.

The maternal and fetal mortality relative to this complication of late pregnancy was determined for both emergency and planned cases. This was done in conjunction with the various types of delivery, to determine whether spontaneous or operative delivery carried the higher incidence of fetal and maternal mortality.

Complications discovered during a thorough medical examination were: toxemias, hypertension, nephritis, cardiac disease, diabetes, all of which played some part and had some bearing on the etiological factor.

All methods at our command, including vaginal examination and x-ray study after the method of Ude and Urner, were utilized in determining an accurate diagnosis. Where time permitted, every individual was studied completely by our medical consulting staff. A large number of patients so often gave only a warning or slight bleeding, which was a signal of more serious consequences to follow.

As soon as the diagnosis was confirmed, the immediate treatment of the patient began. Each case was individually treated, some by Caesarean section, others by spontaneous delivery, forceps, version, and breech extraction.

In instances where immediate blood donors were not available, moderate doses of intravenous glucose solution were given to fortify the individual and to combat possible resulting shock. Intravenous glucose and whole and citrated blood were used freely in these individuals without manifesting any but very beneficial results.

In all cases of serious and massive hemorrhage, immediate intravenous glucose was used in moderate concentration before or during operative delivery and intervention. Where whole blood was available, our results seemed to justify its use and although it may have been necessary to use glucose temporarily, intravenous blood was likewise administered as promptly as it could be obtained.

In view of these final results, practically every case of placenta prævia and premature separation should be delivered by abdominal Caesarean section, of one type or another. This particularly coincides with the teachings of Bill, DeLee, and Potter. Every patient in this series was individualized and where doubt remained the more radical treatment was accepted, with, we consider, better results than were obtained by our previous method of conservatism. We have given up entirely, all attempts at delivery from below and firmly believe that the methods of forceful dilatation of the cervix, Braxton Hick's version and the introduction of Voorhees bags, do not give as good results in our hands, as the more radical operative procedure of Caesarean section. It is to be kept in mind that all of these cases which I am reporting were cared for in a well equipped, modern, maternity hospital, and handled by competently trained chiefs of service or their assistants. In no way, and by no means, do I advocate such a radical procedure to be indulged in by the general surgeon or the unskilled and untrained obstetrician in the home.

We adhered very closely to the teachings and benefits derived by our experience and that of other obstetricians who are all in accord

that certain radical procedures are more dangerous for the patients than the conservative methods of treatment, when the equipment and surroundings are insufficient to meet the needs of the radical procedure.

All of the "don'ts" for placenta prævia were strictly adhered to in this series. Bleeding cases were never temporized with. The cervix was never dilated nor divulsed. The cervix and vagina were never packed. Vaginal examination was made routinely, but no examination of a bleeding patient was permitted or undertaken until all the necessary equipment was in readiness for immediate delivery, and to combat a resultant shock.

I cannot agree entirely with Dr. Kellogg in all of the opinions expressed in his summary and conclusions in his recent article on placenta prævia, nor is it possible for me to aspire to the skill and methods ascribed by Dr. Irving of the Boston Lying-in Hospital, in which his results of Braxton Hick's version stand out as a monument to his skill and this method of delivery in placenta prævia.

The clinical aspects of our cases are worthy of more detailed consideration. In studying our records, bleeding occurred more often in the registered than in the emergency cases. Trauma, falls, and automobile accidents were outstanding etiological factors. The individuals suffering from toxemia, or in whom the toxic state was discovered on careful search for an etiological factor, brought out the fact which has been stressed by Solomons and others, that hemorrhage in the last trimester is not uncommonly associated with this complication. Toxemia played a far greater rôle than we had supposed, and was present in six per cent of the cases which had bleeding in late pregnancy. The fetal mortality in the toxic cases ran next highest to the fetal mortality of premature separation, and we considered that the toxic factor played a distinct rôle in the fetal mortality when associated with late gestational bleeding.

Of the 13 cases of placenta prævia, six were definitely proven to have the placenta located centrally, four marginally, one partially, one cervically, and one was a low implantation of the placenta with only a slight marginal separation. In every instance of these placenta prævia cases, certain clinical characteristics and positive findings were present. The presenting part was never fully engaged. The bleeding was always "painless"; the uterus, unless in contraction, was flaccid, and pain did not appear until the actual onset of labor, while the bleeding was in evidence from six weeks to one hour previous to labor onset. On vaginal examination there was always present a soft, boggy lower uterine segment, with characteristic increase in the bleeding following any digital manipulation of the cervical canal. Toxemia was present in one of the placenta prævia cases. Two were emergency cases and both were admitted with the diagnosis of placenta prævia, and both had had massive hemorrhage before admission. Evidences of shock were present in both of the emergency patients. No trauma occurred in any of these individuals.

Nine of the placenta prævia cases were delivered by Caesarean section; two by internal podalic version; one spontaneously (a para ii), and one by low forceps. The spontaneous delivery occurred in the one where the low situated placenta was present; the two cases delivered by internal podalic version were marginal or partial types of placenta prævia, with wide cervical dilatation and no evidence of marked exsanguination or shock from hemorrhage. There were no breech presentations in this group.

There was one maternal death in the whole series and this occurred in the toxic placenta prævia patient. The clinical factors in this instance are of interest. The patient was a para xiv, in whom marked hypertension, renal disease, and advancing nephritis were present. The first indication was massive hemorrhage and profuse bleeding three weeks before estimated term. The patient was admitted to the hospital with profound shock, renal insufficiency and falling blood pressure with a resultant postoperative pneumonia.

Fetal heart sounds were present. Immediate shock treatment was instituted before, and continued during a Caesarean section. Post-operative embolus and pneumonia developed on the fourth day and the patient died within twenty-four hours thereafter.

In the premature separation group there were seven cases, all of which gave some clinical data, at times confusing, but eventually leading to our final diagnosis. Among the clinical characteristics and symptoms demonstrable, toxemia was not present in any case of premature separation. There was only one emergency case in this group, the other six were registered. None of these seven patients evidenced trauma.

Of the seven premature separation cases, five were delivered by Caesarean section, one by breech extraction and one by low forceps. In two instances hysterectomy was performed on account of the infiltration of the uterine wall and failure of contraction. A Porro Caesarean section was performed once. The breech presented once, with a double footling, which resulted in an easy extraction through a completely dilated cervix. The low forceps was performed as the vertex was low in the pelvis and completely through the cervix, which was blocking or concealing the separation hemorrhage. The completely separated placenta was delivered simultaneously with the child.

The total fetal mortality in this premature separation group, both registered and emergency cases, including stillbirths, was 57.5 per cent, while in the placenta prævia group the total fetal mortality was 23.0 per cent.

There were no maternal deaths in the premature separation cases.

There was no concealed hemorrhage in this group. All showed frank evidences of hemorrhage which was sudden and continuous in character. Pain was present in five of the seven at the local site of the placenta. The uterus was also sensitive to palpation and rigid in character. Two had sudden gushes of blood followed later by a sensitive rigid uterus. The location of the pain and the tenderness over the uterus was characteristic of premature separation, and completely absent in the cases of placenta prævia where the uterus was soft and never rigid or tense, except during a contraction. One patient complained of localized abdominal pain over the uterus two hours before any evidence of hemorrhage occurred. Two patients had no abdominal pain and marginal placenta prævia was diagnosed; on section, both of these patients had a partial premature separation which had not become complete. A viable child was extracted in each instance and was discharged with the mother, in good condition. Four babies were stillborn and these occurred in the individuals with a complete separation of the placenta proven at the time of operation.

Out of 133 patients in this series, 113 women (112 registered and one emergency) gave evidence of bleeding in the last trimester of pregnancy. The clinical factors of these patients are likewise of interest. The bleeding was always of moderate character. Pain was absent, or present in very slight amount. Six patients had nephritic toxemia with hypertension, and one was an eclamptic. Five were definitely traumatic, bleeding as a result of, in one instance falling down thirty-five steps; in another, lifting a sick child; in another, being kicked in the abdomen by the husband; and the other two were in auto accidents. The bleeding in this traumatic group is of interest in that hemorrhage occurred immediately following the injury.

In the group which were classed as "bleeding of undetermined origin", 52 delivered spontaneously, 49 were delivered by mid and low forceps, six had classical Caesarean sections, five had Kerr Caesarean sections, one was delivered by breech extraction and one by internal podalic version.

The total fetal mortality in this group was 6.19 per cent. There were no maternal deaths.

The clinical findings in this group did not leave us much alternative but to place on their record the diagnosis of "bleeding of undetermined origin."

At the time of operation upon the 11 cases which were terminated by Caesarean section, none gave evidence that there was any separation of the placenta, and no other case in this group gave us evidence of placenta prævia. There were no darkened areas or recent infarcts present in the study of the placenta. There was no tenderness over the uterus nor rigidity of its musculature, and as the hemorrhage was in no case of great amount, we were unable accurately to determine either the etiological factor causing the hemorrhage, or the abnormality which presented the bleeding.

We therefore come to the following conclusions:

That, first, it is imperative to study each case of bleeding in the last trimester of pregnancy completely and thoroughly. The etiological factor must be determined, if possible.

That the presence of mild hemorrhage when no evidence of clinical data presents itself, is not to be dismissed lightly.

That the bleeding associated with placenta prævia is of "painless" type, and usually massive in character.

That premature separation hemorrhage is evidenced by a tender, rigid uterus.

That associated toxemias play an important rôle in the bleeding of the last trimester of pregnancy.

That this complication will arise in cases that are under observation and supervision.

That fetal mortality is appalling where severe hemorrhage has resulted.

That, in relation to maternal mortality in placenta prævia and premature separation, every patient shall be fortified against resultant shock and collapse.

That sepsis following this complication is a very minor factor among the patients in a properly equipped maternity hospital, yet ever must this be in our minds.

To those who feel that the conservative method of treating hemorrhage in the last trimester of pregnancy is the best way to meet this complication, my opinion would be that the radical method of delivery, in the end is the more conservative. Although the fetal mortality may be high in both, the maternal mortality is distinctly benefited by the radical method of procedure.

Each patient must be individualized and the success or failure of any method devised for the relief of the serious complication of hemorrhage in the last trimester of pregnancy is dependent upon the accurate diagnosis of the complication, the immediate hospitalization and consideration of the treatment for preventing shock and sepsis.

One severe hemorrhage in late gastational bleeding may be followed by another, and in my opinion, in every case of massive hemorrhage in the last trimester, the simplest, safest, and quickest way to complete the delivery, is the ideal method of procedure.

In general, the risk for mother and baby in cases of placenta prævia and premature separation of placenta is less when delivery is terminated by Caesarean section than it is following delivery from below.

TABLE I

BLEEDING IN LATE PREGNANCY

Philadelphia Lying-in Hospital

Red Service

July 1, 1934 to July 1, 1936

Total Obstetrical Cases	2952	
Total Late Bleeding Cases	133	4.5%
Registered	129	4.36%
Emergency	4	.13%
Trauma	5	3.75%
Toxemia	8	6.01%
Fetal Mortality	14	10.5 %
Maternal Mortality	1	.75%

TABLE II

Types of Bleeding	Total Cases	%
Placenta Prævia	13	.44%
Premature Separation	7	.23%
Undetermined Origin	113	3.82%
	Incidence	
	1 in 227	
	1 in 422	
	1 in 26.1	

TABLE III
PLACENTA PRÆVIA

Total Cases		13
Registered	11 or 84.6%	
Emergency	2 or 15.3%	

Delivery:

	Registered	Emergency
Class. Caesarean	7	1
Kerr Caesarean	0	1
Podalic Version	2	0
Low Forceps	1	0
Spontaneous	1	0

*Fetal Mortality:

Baby Deaths	3—27.2%	0
Maternal Mortality	1— 9.0%	0
Total Fetal Mortality	3—23.0%	0

(*% based on total registered cases.)

TABLE IV
PREMATURE SEPARATION

Total Cases		7
Registered	6 or 85.7%	
Emergency	1 or 14.2%	

Delivery:

	Registered	Emergency
Class. Caes. ç Hyster.	2	0
Classical Caesarean	1	1
Porro Caesarean	1	0
Breech Extraction	1	0
Low Forceps	1	0

*Fetal Mortality:

Stillbirths	4—66.6%	0
Maternal Mortality	0	0
Total Fetal Mortality	4—57.1%	0

(*% based on total registered cases)

TABLE V
UNDETERMINED ORIGIN

Total Cases	113.	(1 set of twins)
Registered		112
Emergency		1

Delivery:

	Registered	Emergency
Class. Caesarean	6	0
Kerr Caesarean	5	0
Breech Extraction	1	0
Podalic Version	1	0
Low Forceps	46	0
Mid Forceps	3	0
Spontaneous	51 (twins)	1

*Fetal Mortality:

Stillbirths	3—2.67%	1—.89%
Baby Deaths	3—2.67%	(twins)
Maternal Mortality	0	0
Total fetal mortality	7—6.19%	

(*% based on registered or emergency cases.)

TABLE VI
FETAL MORTALITY
In Relation to Type of Delivery

	Total Cases	Still-births	Baby Deaths
Class. Caesarean	16	0	3–2.25%
Class. Caesarean ç Hyster.	2	2–1.5 %	0
Kerr Caesarean	6	0	0
Porro Caesarean	1	1– .75%	0
Breech Extraction	2	2–1.5 %	0
Low Forceps	48	1– .75%	0
Mid Forceps	3	0	0
Version	3	0	0
Spontaneous	52	2–1.5 %	3–2.25%

(% based on total bleeding cases or 133)

TABLE VII
FETAL MORTALITY
In Relation to Types of Bleeding

Placenta Prævia	23.0%
Premature Separation	57.1%
Undetermined Origin	6.1%

VOCATIONAL GUIDANCE

Vocational guidance is a short cut to personality adjustment in the job, Hyman Goldstein, Ph.D., points out in his article "Vocational Doctors" in the October issue of *Hygeia*.

The important rôle that personality traits play in occupational adjustment is being gradually recognized. These traits, such as sociability, sincerity, leadership and sympathy, are to some extent measurable and appear to be highly related to performance and satisfaction on the job. The harmonious relationship between the individual and his work depends largely on his personality makeup.

While studies have shown no correlation between financial success and general intelligence, there has been found a close correlation between personality fitness and income. With as much objective measurement by a vocational adviser as is possible, a person may be set on the right track at the beginning.

CAESAREAN SECTION*

By W. A. CRACRAFT, M. D. AND M. B. WILLIAMS, M. D.
Wheeling, W. Va.

IN THIS paper, I want to preface my remarks by stating that there will be no attempt made to cover all the ground of Caesarean Section due to the time allotted; neither is it intended to confine my conclusions strictly to the subject, but rather to include and dwell on related points and obstetric problems connected with it, which seems to me to be most pertinent.

In 1917, while taking a course in obstetrics and gynecology at the Harvard Postgraduate School, I was particularly struck with the statement made at the Boston Lying-in Hospital, that they never permitted a toxemia case under their immediate control to drift into the convulsive stage. She was hospitalized when her blood pressure reached 150, and if there was no response to treatment and conditions grew steadily worse, the pregnancy was invariably terminated. Having practiced medicine since 1901, during which time I had delivered a great many women in private homes and hospitals, this statement made a deep and lasting impression on me, for I had never seen, or have not since, a single patient whose nervous system and domestic life were not partially or wholly wrecked following eclamptic recovery. There seemed to be a wonderful lesson in prophylaxis from their philosophy and during succeeding years, at different times, I have tried to apply that principle more and more in other phases of obstetric practice.

Since 1919, all my obstetrical cases have been delivered in hospitals where one is assured of aseptic technique, better equipment and more skillful assistants than can usually be obtained in outside practice. It is one of my cherished hopes to see the day when small lying-in institutions and hospitals, properly equipped and manned, will be spaced so that every prospective mother will have the opportunity for a decent, well-managed delivery under more experienced supervision and every child given a fair chance when ushered into this cold, unsettled world.

In recent years I have been using forceps less and less, experience having taught me that a waiting policy is far wiser, with occasional small doses of pituitrin administered in primipara or multipara after complete dilatation of the cervix, to help the patient along towards a normal delivery. Forceps in skilled and experienced hands are a veritable Godsend, if the cases have been properly studied during the prenatal period, always with the idea of avoiding difficult instrumental deliveries, especially high forceps. But, when used by the average beginner, and many others, they become a dangerous and health-wrecking weapon, particularly when used, as is oftentimes the case, as a timesaver for the physician, or in order to comply with the demands of the family that something be done quickly—an ever-increasing desire on the part of the laity today. And we must recognize the increased use of low forceps as the result of amnesia and analgesia. What did I know after graduation, about applying forceps? What did you men know about it after your graduation and interneship? There still seems to be something wrong with our modern teaching system and greater opportunity should be provided for students to become more proficient in their proper application, before turning them out on the public. It takes five or ten years of practice before one begins to learn something about practical obstetrics.

*Delivered before the West Virginia Society of Obstetricians and Gynecologists at Clarksburg, W. Va., May 27, 1937.

Right here, I want to make an earnest and sincere plea for American womanhood. Why cannot this terrible flow of almost irreparably damaged and mutilated women to hospital operating rooms be avoided? They represent a constant array of material for our more conscientious surgeons and gynecologists and also, most unfortunately, for the "fee-splitters", still permitted by our organized medical bodies. Let that shoe fit where it will. Thank God I have never descended into the "fee-splitting" class, who appear to thrive by bartering in human flesh. Don't you think it is about time to clean house? This barbarous custom is a disgrace to the medical profession and an insult to trusting humanity. Throw a glance at the operating list posted every morning in any hospital. Add them up for a year and see the high percentage of perineorraphies, trachelorraphies, prolapsed uterus operations, rectovaginal and vesico-vaginal fistula operations registered there. Then think of the colossal number throughout the whole country. We cannot dodge the damming evidence, we calmly and proudly preserve in our hospitals, as records of professional achievement. There surely must be some solution to reduce these appalling figures, which no one could possibly conceive as a credit to good obstetrics, or as a fair fulfillment of duty to the public, whom we are supposed to so conscientiously serve. And remember obstetrics is usually classed among the arts.

I contend that a vast number of these operations are preventable and unnecessary and it seems very possible to me, that our county and other societies, through meetings and respective journals could disseminate a human propaganda, urging all men doing obstetrics, particularly in small towns and countrysides, to study their cases more thoroughly in early pregnancy and send every patient who has doubtful measurements, severe toxemias, etc., to a hospital before delivery, instead of attempting to carry out devastating instrumentations in private homes and thereby increasing maternal morbidity and mortality, as well as infant impairment and death.

After considering this traffic of damaged women, which persists in spite of our continued advances in medicine, why fear or condemn Caesarean Section, unless used as a last resort? Many of these patients could have been delivered by this method and made valuable assets in their homes, instead of life-long liabilities, and every experienced medical man knows that assertion to be true. Who will deny, that children born with beautiful heads are not in better shape to begin life's problems than those whose skulls and brains have been subjected to various degrees of brute strength and forceps pressure? What connection does it have with the alarming increase of criminal tendencies, mental instability or nervous disorders? Food for thought and concerted action, both on the part of physicians and the public. I believe that, in proper hands, the mortality in Section can be kept very low, if you will include, as you should, many women who should have sections and who now die from sepsis following unwise forceps deliveries and countless others who succumb in our hospitals following operations for repair. These cases, somehow, seem to escape being properly classified in comparative statistics.

There are too many men performing this operation who are not qualified and I hope the day is not far distant when it will be restricted entirely to men capable of doing operative obstetrics. The surgeons—many of them, exceeding their surgical limitations—seem to have appropriated about everything in and around the pelvis as their rightful field and should be compelled to stay out of obstetrical pasture.

Prior to 1922, I had performed a considerable number of sections, the exact number of which I am unable to report, but I remember most vividly the only two deaths during that period, and they were deaths that might have been prevented—both occurred in 1921. One was a primipara twenty-four (24) years of age, who had served with the A. E. F. in France, giving a history of a profuse leu-

korrheal discharge prior to and during pregnancy. After a long labor, I resorted to high forceps and finding myself unable to deliver her, I very unwisely performed a high Caesarian. In a few days she died of peritonitis. A low section might have saved this life. The other death followed an elective operation in a girl of twenty-four (24) years, who had lost her first and only baby in another State from high forceps. She had a generally contracted pelvis. She died of "strep" peritonitis and very likely, the blame was my own, as we afterwards discovered that an interne assistant was just convalescing from a streptococcic sore throat. A terrible and valuable lesson to all of us in careful choice of assistants. I wish to add here, that the operator should always have, at least, one experienced assistant, in addition to internes and an experienced clean nurse.

Since 1922, Doctor Williams has been associated with me in all my work and we have been intensely interested in studying our cases, beginning early in pregnancy, trying to avoid many of the pitfalls previously mentioned, and developing a technique which would help us in our Caesarian work.

Our experience with this operation justifies the mention of a few points in technique, that may vary from the usual routine.

(1) The application of extra coats of tincture merthiolate to abdominal wall as in modified bone preparation.

(2) No preoperative vaginal preparation in clean elective cases.

(3) Small incisions which reduce incidence of wound infection and herniation.

(4) Instead of usual incisional clamps, the incision pads are sutured to the wound with continuous plain cat gut. If this is carefully done there is no contact at any time, of the intra-abdominal contents with the skin.

(5) Refrain from the use of abdominal packing during operation. As a rule only the end of one sponge is used at the upper angle of the wound.

(6) Complete disregard of splash in clean cases. No attempt is made at so-called "toilet of peritoneal cavity."

(7) Careful complete removal of placenta and all membranes.

(8) Use of warm wet towels under uterus and over abdominal contents when uterus is delivered from abdomen for suturing after delivery of the child. These towels are not packed into the abdomen.

(9) No utero-vaginal drains are used as we believe they predispose to uterine infection.

(10) Just before closure of abdominal wound the omentum is carefully placed over the intestines and posterior to uterus.

We have performed about one hundred Sections with only one death. This case was one of Doctor Williams' while on staff service and was hopelessly doomed with a decompensated heart. Autopsy later proved the wound, abdomen and pelvis in excellent order. This report relates to the classical operation, because our experience with the low procedure has been too limited to justify discussion. The low operations have a definite place in operative obstetrics and should be resorted to as the method of choice, in all cases of infection and where doubtful technique, judgment or management is suspected. We have made it a rule to rate, as a possible Caesarean, any case examined in the first trimester who shows an external conjugate below 18 centimeters or internal evidence of a small pelvis or other obstruction, elicited by the diagnostic finger. Pelvic measurements are often unreliable and deceiving.

All doubtful cases are x-rayed about the thirty-third week. We have the advantage of an expert röentgenologist—Dr. Charles H. Clovis—who has been wonderfully interested in these cases and we are very thankful to him for valuable opinions based on interpretations of x-ray films. Much information can be gleaned from comparing the size of the skull to the pelvis, the extent of ossification of the skull and the size of the fontanelles as affecting the moulding process. Also, how much separation of the symphisis is present,

the condition of the sacro-iliac joints, as well as confirming diagnosis of position, plural pregnancies and anomalies. These factors have helped us in making our decisions as to the management of individual cases.

Most of our operations were elective deliveries and a large percentage of them for contracted pelvis or disproportion, thereby avoiding use of forceps. Four were done for placenta prævia; six severe toxemias; two in eclamptic seizures; two for fibroid obstruction, and two for decompensated heart disease. Thirty were repeated sections. Two women had three operations each and twelve had two.

For anesthesia we have been using cyclopropane and getting very good relaxation and a greater margin of safety for the baby, due to the high percentage of oxygen in proportion to the cyclo-propane. Nitrous oxide and oxygen, plus infiltration or ether, or ether alone, have been used extensively. We do not consider that spinal anesthesia has a definite place in operative obstetrics. Gastric lavage is carried out on every patient before leaving the operating table and undoubtedly reduces postoperative vomiting, gastric dilatation and abdominal distention.

In conclusion we wish to emphasize the following points for we believe they play an important part in a satisfactory end result.

(1) The importance of early pelvic measurements as compared to late ones.

(2) Early hospitalization of abnormal cases to allow time for cool, careful study which tends to a wise decision as to method of delivery.

(3) X-ray study will be found to be of great value.

(4) Avoid use of operation as last resort. Do not take attitude that section is to be considered only after all other methods have failed.

(5) Use of low operation in actively or potentially infected cases.

(6) Other factors being equal, section is often to be preferred to high forceps delivery.

(7) Without attempting to cover in detail postoperative management a few special items can be mentioned:

(a) Gastric lavage in the operating room immediately following completion of operation.

(b) Keep abdominal adhesive straps loose. Where postoperative distension is present this not only adds immeasurable to the comfort of the patient but tends to lessen embarrassment of heart action and respiration and to allow movement of intestines which is a prophylactic against obstruction.

(c) Avoid too early use of laxatives. Allow time for restoration of peristaltic action.

(d) Intravenous glucose is used almost routinely.

(e) When indications are present these patients should receive blood transfusions promptly and repeatedly if necessary.

(8) Finally a word on sterilization of these mothers. Generally speaking we do not encourage it. When indicated we prefer the use of contraceptive measures to prevent future pregnancies. We believe sterilizing procedures performed at time of section favors operative complications, and may be the cause of future mental and endocrine imbalance.

MARIHUANA

While under the influence of the narcotic marihuana a person's normal restraint centers are paralyzed, making him especially responsive to suggestion from other persons and outside stimuli, declares George R. McCormack, author of "Marihuana" appearing in the October issue of *Hygeia*.

This drug depresses the central nervous system, with the result that the individual loses all power to control his behavior. In this condition his ego becomes greatly magnified. To him, nothing appears impossible. He feels that he is the master of every situation, of every individual.

Sound, time and space lose their values. Minutes drag on as hours; ordinary sounds seem as reverberations of thunder; the very room the addict occupies appears limitless. With senses thus acute, erotic visions are often aroused. Consequently there are numerous cases on record to prove that revolting sex crimes, often involving children, are committed by persons "high" on marihuana.

ABDOMINAL PREGNANCY NEAR TERM*

By WILBUR E. HOFFMAN, M. D.
Charleston, W. Va.

IN 1935, Hellman and Simon,[3] surveying the literature on full term intra-abdominal pregnancy found no complete bibliography on the subject had been compiled since Sittner published his last paper in 1906. They collected from the literature 311 cases and added five cases, making a total of 316 cases. Of the 316 cases studied, 158 babies lived (for a period of eight days or longer), 212 mothers lived, 101 died and the outcome of three was unknown. The chief causes of death were:

1. Hemorrhage with shock.
2. Peritonitis.
3. Secondary factors including diseases of the kidneys and heart, and later complications such as pneumonia.

In 1933, Dr. Hudnall Ware, Jr., of Richmond, reported two cases at a meeting of the Southern Medical Association where the mothers and babies survived. Since that time he has reported six more cases making a total of eight.

In my limited experience I have seen two cases of abdominal pregnancy, both of which were not correctly diagnosed before operation. One was a colored woman who expired from hemorrhage when the placenta was removed. This case was referred to the hospital where I served my internship in obstetrics.

Case No. II: H. C., married, white, para I, 24 years old, was referred to me on May 30, 1936. Family and past history up to present pregnancy were essentially negative. Menstruation began at 12 and recurred every three or four weeks, lasting three days, with pain on the first day. Patient stated that her last menstruation was September 5, 1935. She consulted her family physician in October. During the latter part of November, 1935, she had severe abdominal pain, bleeding and nausea. Her physician was called about her condition and he advised her to remain in bed. She bled for four or five days and then had a continuous discharge of what seemed to be water.

In April she consulted another physician in her home town about the bleeding and he advised her to have an x-ray and consult another physician. X-ray examination at this time showed the baby's head in the right iliac fossa, the back to the left. The bladder was injected and there was a wide separation between the bladder and the baby's head, suggesting a placenta prævia.

On May 20, 1936, she consulted a third physician in our city who said she had a possible placenta prævia and referred her to me on May 30th. At this time I examined the patient's abdomen and thought I felt the uterus which was hard and enlarged to about a thirty-five to thirty-six weeks' pregnancy. The fetal heart tones were heard to the left and anteriorly.

On June 6, one week later the patient returned complaining of bleeding without pain and a continuous discharge of water. Vaginal examination showed the external os closed, cervix soft, thick, long and in about the normal position. To the left of the cervix a soft mass could be felt which I took to be the placenta. The uterus could not be palpated. The head could be felt to the right on abdominal palpation and was not engaged.

The following day under ethylene anesthesia the abdomen was opened through a right para median incision. The uterus was anterior and enlarged to a three or four months' pregnancy. Under the uterus and filling the abdominal cavity was the sac. The sac which was tough was opened and the baby delivered. The cord was cut close and tied.

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The membranes were sutured together with No. 2 chromic catgut. As there was some bleeding at the points of suture of the membranes the omentum was sutured over the membranes to stop the hemorrhage. The placenta was attached in the left iliac fossa, posterior wall of the uterus, part of the omentum and several coils of small and large intestine. The placenta and membranes were left intact and the abdomen closed. Very little blood was lost during the operation.

Four hundred c.c. of citrated blood was given later in the day. This was repeated on the third, fourth, fifth, and sixth days following operation. On the fifth day the patient's abdomen was distended and she vomited several times. A Levine tube was inserted, gastric lavage done and a large amount of gas drawn off. The temperature ranged from normal to 101° on the third and sixth postoperative days, the pulse ranging from 80 to 100. On the eleventh day the skin clips were removed and the stay sutures removed one week later. The incision looked well. There was a hard mass in the lower abdomen which extended to two fingers below the umbilicus. No evidence of lactation occurred in this case. She was allowed to go home on the twentieth day in an ambulance.

The baby weighed four pounds, 10 and three-fourth ounces and was 15 and three-fourth inches long. It was seen shortly after birth by a pediatrician who made the following notation: "Child has a marked distortion of the head, nose is flattened against face and right nares is almost closed. There is a flexion deformity of the right elbow. The right foot is everted. The baby is cyanotic. The cyanosis is most likely due to the distortion of the skull and injury to the brain, which probably resulted from the position of the infant in the abdominal cavity." The baby died twelve hours after delivery.

I asked the patient to keep a record of the morning and evening temperature while at home which ranged from normal in the morning to 100.8° in the evening. About a week later I opened a small blister on the abdominal incision and a very foul gas escaped. A few days later the incision broke in two places and the drainage was foul and similar to foecal matter. This continued for about five weeks after which the abdomen closed and she continued to improve.

Summary: It is interesting to note that in cases where the placenta was left intact, no evidence of lactation was found, suggesting an inhibitory action of the placental hormones on the breasts.

If the placenta is easily removable it should be removed, but if firmly adherent, especially to the intestines, it seems safest to leave it alone, as it absorbs in the course of a year.

It is also interesting to note that vaginal bleeding occurred early in this case and the fetus continued to live. Some obstetricians consider vaginal bleeding in an ectopic pregnancy indicative of fetal death.

I am indebted to Dr. H. Hudnall Ware, Jr., of Richmond, Virginia, for the information obtained from his paper, "Late Extra-Uterine Pregnancy," in which he reports eight such cases.

Medical Arts Building

REFERENCES

1. Beck, A. C.: J. A. M. A., 73: 962, 1919.
2. Anspach, M. Brooke: Obstetrics & Gynecology, Curtis, Vol. III, p. 384, W. B. Saunders Co., Phila., 1933.
3. Hellman, Alfred M. and Simon, Herbert, J.: Amer. Journal Surgery, 29: 403, 1935.
4. Ware, H. Hudnall, Jr.: N. Y. State Journal of Medicine, Vol. 36, No. 24.
6. Titus, Paul: *Management of Obstetric Difficulties*, p. 270, C. V. Mosby Co., St. Louis.

CHILDHOOD FATIGUE

If your child is cross, irritable, easily fatigued or nervously unstable, there is a reason, and in many cases that reason is malnutrition, declares Mildred Hatton Bryan in her article "Don't Let Your Child Get Thin!" appearing in the October *Hygeia*.

About one-fourth of the children in this country are underweight, undernourished, or malnourished. Sometimes the weight is affected last by undernourishment, but eventually that symptom will appear along with the others just mentioned.

To set the child back on the right road the whole family may have to live more quietly in order to give the child a chance to be quiet.

EXTRAUTERINE PREGNANCY*

By GILBERT A. RATCLIFF, M. D.
Huntington, W. Va.

EXTRAUTERINE, or ectopic, pregnancy is defined as that condition which arises when a fertilized ovum lodges and imbeds itself in any situation outside the cavity of the uterus, development proceeding in the aberrant site for a variable period of time. The frequency with which the condition occurs is hard to determine, but a fair estimate would seem to be one extrauterine pregnancy to each three hundred intrauterine pregnancies. There apparently is no racial factor in the condition, the incidence being essentially the same among white and colored, when the ratio of each race to total population is considered. The age incidence naturally is limited, as the condition is one solely of the child-bearing period. About two-thirds of the cases occur during the decade of twenty-four to thirty-four years of age.

In classifying cases of ectopic pregnancy the original point of implantation of the fertilized ovum is used as the basis for classification. However, the first implantation may be disturbed and the ovum become implanted a second time, and the terms, primary and secondary form, are then used to distinguish between the two conditions. Primarily, beginning at the uterus, the fertilized ovum may become implanted and start growing in the tubal lumen, within the thickness of the uterine wall; this is designated as interstitial, cornual, or apical pregnancy. If the implantation takes place in the constricted isthmus of the tube, it is called isthmial; if in the expanded, trumpet-shaped ampulla of the tube, ampullar; when the abnormal site is at the fimbriated extremity of the tube, it may be either tubo-abdominal or tubo-ovarian. Ovarian pregnancy results when the ovum is fertilized without having been extruded from the Graafian follicle, the development continuing within the cortex of the ovary. Primary abdominal pregnancy, when the ovum is fertilized while free in the peritoneal cavity, and implants itself upon any tissue with which it may come in contact, is a theoretical possibility; practically always the abdominal pregnancy is a secondary form. Another secondary form is the intraligamentary pregnancy in which rupture of the tube occurs in such manner that the pregnancy becomes implanted between the folds of the broad ligament.

The relative frequency of the various forms of ectopic pregnancy is hard to determine. It appears, though, that isthmial and ampullar forms make up the great majority of cases, with the isthmial slightly more common than ampullar. The interstitial is rare, as are also the tubo-ovarian and the tubo-abdominal; while the true abdominal, the ovarian and the intraligamentary are very seldom met with. The two tubes are affected with equal relative frequency, contrary to a general belief that the right is more often involved.

The etiology of ectopic pregnancy is a matter of debate. Logically, though, the cause should lie in some interference with the passage of the ovum from the ovary through the Fallopian tube into the uterine cavity. Such interference might result from: (1) obstruction of the tubal lumen from without; (2) obstruction of the tubal lumen from within; (3) anomalies of the tubal lumen, as accessory tubes or diverticuli into which the ovum falls and then can be propelled no farther; (4) decidual reaction in the tube; and (5) the growth of a fertilized ovum outside the tube to such an extent that, when the ovum does finally enter the tube, its size pre-

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cludes its transit through the lumen (external migration of ovum). Under obstruction of the tubal lumen from without, there is to be considered peritubal adhesions, causing strictures or kinks; and constrictions resulting from tumors of neighboring organs, as fibroids, ovarian or parovarian cysts, etc. Undoubtedly it is obstruction of the tubal lumen from within, that underlies the vast majority of tubal pregnancies, and this obstruction is due to some inflammatory reaction, bringing about destruction of the ciliated lining of the tube with coalescence and cohesion of the tubal mucosa.

A tubal pregnancy may terminate in any one of several ways: (1) early death of the ovum with complete resorption and a restoration of the tube to its prepregnant condition; (2) tubal abortion; (3) death of the embryo with formation of tubal mole, or mummification, lithopedian formation, suppuration or fatty degeneration; (4) rupture of the pregnant tube, either into the peritoneal cavity or between the folds of the broad ligament; (5) growth and development of the pregnancy to term, when either the fetus dies as a result of nutritional failure, or is delivered by abdominal section; and (6) if the pregnancy is interstitial, the fetus may gradually be extruded into the uterine cavity and develop as a normal intrauterine gestation with spontaneous vaginal delivery at term.

Medical literature records some fifty cases of twin tubal pregnancies together with a few reports of triplet ectopic pregnancies and a number of combined intrauterine and extrauterine pregnancies. Among the multiple tubal pregnancies are cases both of unilateral and bilateral involvement of the tubes. These multiple ectopics, in which the two or more embryos start development at approximately the same time, are to be distinguished from the cases of recurrent ectopics in which a month to several years' time elapses between the two pregnancies. These latter are important in deciding upon the proper surgical procedure at operation for an ectopic pregnancy, in view of the fact that statistics seem to show that among those patients having only the one tube removed at operation, one-half of them have, later, normal intrauterine pregnancies, and one-eighth of them have another ectopic pregnancy in the remaining tube. An additional form of ectopic gestation, that should be mentioned, is cervical pregnancy. The condition is rare but has been reported a few times. It is not to be confused with placenta prævia, in which the ovum is abnormally implanted, but still implanted within the uterine cavity, whereas in cervical pregnancy the implantation is below the internal os, and outside the true cavity of the uterus. Of the cases of cervical pregnancy reported, all terminated within three months, either by abortion or rupture through the cervical wall.

In discussing the symptomatology and diagnosis of extrauterine pregnancy it is helpful to divide the cases into groups somewhat as follows: (1) tubal pregnancy before there is any sign of rupture or abortion; (2) tubal pregnancy with beginning abortion or rupture as evidenced by slight bleeding; (3) tubal pregnancy with frank rupture or abortion; (4) late lesions, as hematocele, lithopedian formation, etc., caused by a preexisting pregnancy, which was either unrecognized or, at least, not treated surgically, at the time; and (5) ectopic pregnancy other than tubal, as ovarian, abdominal, and cervical. Diagnosis in the first group, is rarely made. The patient has no symptoms, other than amenorrhea, and seldom presents herself for examination; and if examination is made, the affected tube is not yet tensely swollen and the findings are not different from those in an early normal pregnancy. In the second group, where there is slight bleeding, every effort should be made to arrive at a positive diagnosis, for it is in this group that the best end results in treatment are obtained. The usual signs of pregnancy may, or may not, be presented; as morning sickness, changes in the breasts, increased pigmentation in various skin areas, frequency of urination, congestion of the vaginal mucosa, softening of the cervix,

and slight enlargement of the uterus. When present, the signs are less marked than in normal, intrauterine pregnancy. Pelvic pain, in conjunction with metrorrhagia following a variable period of amenorrhea, is the outstanding thing in the majority of cases. The pain may be throbbing or colicky, when due to some peristaltic action in the tensely distended tube, or at other times a dull ache. If there has been much oozing from the fimbriated extremity of the tube with accumulation of blood in the cul-de-sac the patient may complain of pain on defecation. Shoulder pain, due to blood in the peritoneal cavity, is sometimes mentioned as a diagnostic sign in ectopic pregnancy, but is rather inconstant. Cullen's sign, bluish discoloration about the umbilicus, due to hemoperitoneum, likewise is inconstant, and requires considerable hemorrhage, usually after tubal rupture, to exhibit itself. A unilateral dilatation of the pupil has been reported in some cases, in association with shoulder pain, and presumably occurring on the same basis. Most of the patients give a previous history of relative sterility, especially the one-child type, or a history of pre-existing pelvic disease, or a previous abdominal operation.

In differential diagnosis there are a number of conditions to be considered at times, as acute appendicitis, ovarian cyst with twisted pedicle, ureteral colic, and so forth; but acute salpingitis and intrauterine pregnancy with threatened abortion are the most confusing. To help in differentiation from salpingitis, the Aschheim-Zondek or Friedman test is conclusive if positive, but uncertain if negative; the sedimentation test gives valuable information if the time is not reduced from normal, but questionable if the time is reduced. Posterior colpotomy may be used, with only vaginal drainage being instituted if pus is found, and laparotomy being performed if the cul-de-sac contains blood. Of course, in salpingitis, the pulse rate, temperature and blood count should be higher than in ectopic pregnancy. In differentiating ectopic pregnancy with bleeding, from threatened uterine abortion, the following points are to be considered; in uterine abortion the bleeding is freer, the blood bright red, pain is less intense at first, spasmodic in type, located in the midline and grows worse as the abortion proceeds; while in the ectopic pregnancy the pain, located more on one or the other side, is severe at first, growing less intense after awhile, usually to a dull ache. Abdominal rigidity is more marked in ectopic pregnancy, and, on vaginal examination, if nothing else can be made out, there is usually a decided pain on motion of the cervix, in the ectopics, that is not found with intrauterine pregnancies.

The classical description of the patient with sudden rupture of a tubal pregnancy is well known, and diagnosis readily apparent in the typical case. The patient is suddenly seized with an agonizing, lancinating pain in the lower abdomen, frequently accompanied by nausea and vomiting, then fainting and collapse. The pulse is rapid and weak, the skin cold and clammy, temperature subnormal, respirations rapid and shallow, with air hunger, anxious facies, and intense restlessness. The abdomen is rigid and extremely tender. Vaginal examination reveals a soft, bulging cul-de-sac. Unless there is surgical interference, about half these cases go on to fairly prompt exitus. In the other half, the patient reacts from the initial shock, regains some strength, and may go along indefinitely with nothing more than the initial supportive treatment.

Diagnosis in the last two groups of cases mentioned, that is, the late lesions, and the ectopics other than tubal, need not be considered in detail. Positive diagnosis most frequently is impossible. Fortunately the conditions are rare, and the late lesions especially becoming more so, with better understanding of the acute condition. It might be said that in abdominal pregnancy which goes to term, a positive diagnosis should be possible and is essential, of course, if the child's life and probably that of the mother too, is to be saved. The thing emphasized in diagnosis, is, in ab-

dominal palpation, the nearness of the fetus to the examining hand, and the excessive mobility of the child; then, on vaginal examination, the comparatively small uterus displaced to one side or the other, and the fetal parts unusually easily felt through the vaginal vault.

To come to a consideration of the treatment of the extrauterine pregnancies, it may be stated without argument, that the treatment is surgical; the exact time for surgical interference in some cases, however, is a matter for argument. In any case of ectopic pregnancy, before rupture, when positive diagnosis is made, immediate surgery is indicated. When diagnosis is questionable, surgical interference may be decided upon according to the personal attitude of those concerned. It would seem that too much conservatism in this situation, is not justifiable. After rupture of an ectopic, as has been stated, a considerable number of the patients will react, and possibly be in better condition to withstand surgery, after the lapse of some time, than they are immediately. Because of the uncertainty, however, if facilities are at hand for operation, it is generally considered best to combine supportive treatment with surgery, and proceed to operate without delay. At operation, in the patients with active bleeding, the first consideration is hemostasis. When the bleeding point has been located, and clamped or tied, the amount of surgery that is done will depend upon circumstances. The affected tube should be completely excised. If the patient has no children or fewer than she desires, and the opposite tube is grossly normal, it may be left undisturbed. On the other hand, if it is obviously diseased, or if sterilization is desired, the opposite tube should be excised. In occasional cases an oophorectomy, uterine suspension, appendectomy, or other procedure may be carried out, but it is probably wise to keep incidental surgery to a minimum.

In those rare cases of abdominal pregnancy going to term, there is apparently room for debate in regard to proper treatment of the placenta. The time-honored procedure was marsupialization, suturing the edges of the gestation sac to the edges of the abdominal wound, and permitting sloughing over several weeks' time, with usually secondary closure in the end. More recently the abdomen has been closed, without drainage, leaving the placenta in situ, and relying upon the absorptive powers of the peritoneum to take care of it. From the good results reported, it would seem that this procedure may be the one of choice in the future.

Unquestionably, the most important supportive measure in the treatment of ruptured ectopics, is blood transfusion, and autohemofusion, or using the patient's own blood from the peritoneal cavity, in cases where it can be carried out, is much to be recommended.

Case Report: Mrs. H. V. H., white, age 41, admitted to Huntington City Hospital, March 8, 1935. Patient had been seen at home, on a farm near Lesage, by two physicians, and was sent to the hospital with a tentative diagnosis of ruptured ectopic pregnancy. The history was regular menstruation until three months previously, then two missed periods followed by slight irregular bleeding, then severe attack of pain with partial collapse, and, on examination, a rigid, tender abdomen, unusual pain on motion of the uterine cervix, questionable enlargement of the uterine body, with a mass palpable on the right side. In the past history, patient had eight living children, oldest twenty, youngest four, no children dead, and no miscarriages. Husband in good health. When patient came to the hospital, about forty-eight hours after her acute attack of pain, she was able to walk from the car into the hospital. Temperature 99°, pulse 116, respiration 22. Her blood count showed red cells 3,500,000, 70 per cent hemoglobin, white cells 9,000, with 58 per cent polymorphonuclears. Urine negative. She was admitted to the hospital at 11:00 a. m., and went to the operating room at 3:00 p. m. Preliminary hypodermic, morphia grs. one-fourth, atropine grs. 1/150. Anesthestic, drop ether.

COMPARATIVE DATA ON SIX CONSECUTIVE CASES OF EXTRAUTERINE PREGNANCY

CASE	#1	#2	#3	#4	#5	#6
Patient & Address	Mrs. H.V.H. Lesage, W.Va.	Mrs. G.V.E. Huntington	Miss E.J.M. Gallipolis	Mrs. J. S. Huntington	Mrs. C. B. Huntington	Mrs. H.F.V. Huntington
Hospital Admission	H.City Hosp. 3-8-35	H.Mem.Hosp. 1-3-34	H.Mem.Hosp. 3-25-34	H.Mem.Hosp. 7-2-34	H.City Hosp. 4-4-35	St.Marys Hosp. 7-31-36
Color	White	White	White	White	White	White
Age	41	30	26	24	41	26
Previous Pregnancies	8 children All living oldest 20 youngest 4	1.child 8 2.Miso. at 3 mos. D&C one year ago	-	-	1.miso. at 2 mos 2.child died 3.liv.age 14 4.liv.age 12	-
Previous Laparotomy	0	0	0	0	0	Ruptured appendix age 5
Admission T. P. R.	99° 116 22	98.6 88 20	99° 84 20	98.2° 72 16	99.6 100 24	98° 120 20
Laboratory	RBC 3,500,000 hb. 70% WBC 9,000 Polys 58% Urine neg Kahn 4 +	3,900,000 75% 10,600 64% neg neg	4,450,000 88% 8,600 82% neg neg	4,000,000 78% 9,900 84% neg neg	3,230,000 80% 8,500 77% neg neg	3,200,000 70% 20,000 91% neg neg
Cullens sign	+	-	-	-	-	-
Pre-operative Diagnosis	Ruptured ectopic pregnancy	Subinvoluntion Retroversion	Right Tubal pregnancy	Ruptured ectopic pregnancy	Ruptured ectopic pregnancy	Right Tubal pregnancy, rupt.
Anesthetic	Ether	1. Ether 2. Ether	Nitrous Oxide Oxygen&ether	Nitrous Oxide Oxygen&ether	Spinal (Novocain)	Cyclopropane
Operation	3-8-35 Bilateral salpingectomy	1.1-4-34 D&C 2.1-6-34 right salpingectomy	3-25-34 Right salpingectomy	7-2-34 D&C & Left salpingectomy	4-18-35 Bilateral salpingectomy	7-31-36 right salpingectomy
Operative time	38 min.	1. 10 min. 2. 35 min.	37 min.	51 min.	35 min.	22 min.
Drainage	1 penrose	0	0	0	1 penrose	0
Post-operative course	Delirium Deoubitus Ulcer Highest T. 102 P 146	Uneventful Highest T.100 P 120	Uneventful Highest T.99.6 P 110	Uneventful Highest T.110.6 P110	Satisfactory Highest T.101 P 126	Satisfactory Highest T.110.6 P 130
Transfusion	3-9-35 500 cc (Cit)	0	0	0	0	7-31-36 400 cc 8-2-36 450 cc
Post-Op. & Path. Diagnosis	Rt.Tubo-abdominal pregnancy rupt.	Rt.Tubal Preg. unrupt. ampullar	Rt.Tubal Preg unrupt. ampullar	Lft.Tubal Preg. rupt.isthmic	Rt.Tubal Preg. rupt.ampullar	Rt.Tubal Preg. rupt.isthmic
Duration of Pregnancy about	2½ mos.	2 mos.	2mos.	1½ mos.	2½ mos.	6 weeks.
Elapsed time following rupt. to op. about	2 days	0	0	8 hrs.	2 wks.	3 hrs.
Discharge date condition	3-29-35 good	1-17-34 good	4-8-34 good	7-12-34 good	5-2-35 satisfactory	8-10-36 good
Days in hospital	21	14	14	10	28	10
Subsequent Condition	good	good	good	good	good	good
Subsequent preg.desired To date	no 0	? 0	no 0	yes 0	no 0	yes 0

Note: "Shoulder pain" and "inequality of pupils" were looked for in each case, but not noted. "Sedimentation rate" and "urine pregnancy tests" were not carried out, although considered by the writer to be desirable routine procedures.

Operative note: Lower, midline abdominal incision made; large quantity of old and fresh blood immediately encountered in lower abdominal cavity. This was removed, and a placental mass attached to the fimbriated extremity of the right tube and adjacent loops of intestine found. This mass was dissected free and removed, and the right tube excised. Oozing from the placental site was controlled by hot packs, and the left Fallopian tube excised. Gauze was packed over the placental site and brought up through the abdominal incision as a Penrose drain, to be removed after about 48 hours, and the abdomen closed in routine manner with plain catgut in the peritoneum, chromic catgut in the fascia, two silkworm gut retention sutures, and black silk in the skin. On the operating table, patient's condition was only fair; she was given caffeine sodiobenzoate hypodermically, and an intravenous injection of glucose and saline started, giving altogether 500 c.c., 10 per cent glucose, followed by 1000 c.c. normal saline, before returning patient to her room. She had morphine grs. one-fourth and digifoline one c.c. every four hours, and passed a fairly good postoperative night. Temperature highest 101°, pulse 128. Some bright red drainage both abdominally and vaginally.

The following day, Saturday, a blood transfusion, 500 c.c. citrated blood, was given, a nephew serving as donor, with no reaction. Temperature, pulse, and respiration at 4:00 p. m., 102°, 146, and 28. Digifoline continued q. eight h. and morphine p.r.n. Sunday morning patient seemed very restless, and somewhat flighty, mentally. Sodium amytal grs. three given at 1:30 p. m. with patient more quiet afterwards. Glucose 500 c.c. 10 per cent solution, followed by saline 1000 c.c. given at 6:00 p. m. Sunday night patient was delirious and violent, had to be restrained, was given chloroform at 8:30 p. m. and again at 2:30 a. m. Sodium amytal grs. nine given at 9:30 p. m. and grs. six at 2:45 a. m. During the day Monday, she was not violent, but still noisy and restless. Sodium amytal grs. three twice during day. Condition much the same for the next 24 hours, and then patient was rational, and convalescence proceeded without further event, except for a small pressure ulcer on the right gluteal region which healed satisfactorily.

The abdominal wound healed per primum, and patient was discharged from the hospital in good condition, on the twenty-first day after admission. The routine Kahn test was reported four plus, and on inquiry, it was learned that the patient had had syphilis, with treatment, and assurance that she was cured, before this marriage.

REFERENCES

Davis' Gynecology and Obstetrics, Vol. I, Chap. XI.
Gynecological and Obstetrical Monographs, Vol VII.
Williams: Obstetrics, Chap. XXX.

PRESENCE OF FEAR

The continued presence of fear leads to an undermined self confidence, thus causing the person's real abilities to be lost sight of, Dr. Everett S. Rademacher says in his article "The Force of Fear" now appearing in the October issue of *Hygeia*.

There is perhaps nothing quite so fettering to free and easy behavior as a fear state. It uses up energy; it wastes time, and it diminishes efficiency. Fear in a child is often the forerunner of later adult fears. Fear states in children are usually a little easier to work with than those in adults, and the early riddance of such emotional upheaval will greatly benefit the person in years to come.

Fear is a devastating emotion. It has many shades and colorings. It is allied to worry, to uncertainty, to anxiety and to doubt. There is even a fear lest one be afraid.

Fears in children result from a cause and often one that is not obvious. They may be the result of a deep seated force, an end-result of the turmoil that goes on between the more instinctive elements of behavior and the ideals which have been instilled or acquired through training. Some parents by their overprotectiveness rear their child under such sheltered conditions that there is never any opportunity for him to find out what his innate capacities are in competition with his contemporaries. When such a child has to go to school, meet other children and be subjected to their ridicule, he may gain doubtful solace from the parent's remark that when he gets big he will amount to something, whereas the others will not.

PLACENTA ACCRETA

By A. P. HUDGINS, M. D.
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THE TERM retained placenta is used to denote cases when the placenta is not expelled from the uterus within the normal time.

There are two chief factors involved:

1. Failure of the placenta to separate from the uterine wall. The unseparated placenta can further be classified into (a) Simple adherent placenta, and (b) Placenta accreta.

2. The separated placenta which is not allowed to pass out of the uterine cavity because of a closed cervix. The placenta which is only within the vaginal canal is not strictly speaking a retained placenta. Retention of the placenta in the upper segment of the uterus is due either to uterine inertia or to the condition called "hour-glass contraction" which is a contracted ring-like band above the lower uterine segment.

A placenta with a large base, spreading over a large uterine area, is the type which usually separates slowly. This type is often thin and uterine contractions do not peel it off as readily as would be in the case of the thick bulky placenta.

When the placenta is in the upper portion of the uterus and remains in its normal position, there may be little bleeding. If partially separated, of course, the bleeding may be alarming. When the placenta is in place in the upper segment the fundus feels large and firm, remaining at the level of the umbilicus or above. If it is separated from its attachment but still within the uterine cavity the fundus seems a little smaller and firmer and seems to change its position by coming forward.

If the placenta is retained and giving no symptoms it need cause no alarm and requires watchful waiting. It is considered advisable to place the hand gently on the fundus after the delivery of the fetus but to refrain from massaging it until the placenta is separated as shown by the changed position and consistency of the fundus.

If after 30 to 60 minutes the placenta has not been expelled, gentle massage or modified Credé may be tried. If, however, this is not effective the patient may be made comfortable, a sterile pad placed over the vulva and she may be even returned to her bed after two hours. The placenta usually delivers spontaneously within 12 to 24 hours. Some clinicians recommend an attempt at manual removal of the placenta if it is retained longer than two hours even though no symptoms suggest urgency.

Placenta accreta results from a defective or absent decidua basalis. Thus exposing the uterine musculature to the erosive action of the trophoblast with penetration by the villi. The intimate union of placenta and muscle wall prevents the normal mechanism of placental separation, there being no line of cleavage. No bleeding occurs unless manipulation has caused some separation, nor is there any descent of the cord nor change in the shape of the uterus. The shape remains broader from side to side not assuming the firm contraction and ball-like shape characteristically present in the separated placenta.

Occurrence: The condition is a rare but a definite pathological entity. Polak reported one case in 6,000 deliveries. Hirst, one in 40,000; Kraul, three in 60,000; Nathanson, four cases in 75,000. Feiner collected 40 reported cases in only 20 of which the placenta was examined in situ.

Polak found in his series (6,000) eight manual removals were necessary—four were found to be retained, three simple adhesive placenta and one placenta accreta.

The normal separation of the placenta is dependent upon a well-formed decidual basalis. After the expulsion of the fetus the uterus contracts, reducing the original area of the placenta. The placenta begins to peel off from the uterine wall, the separation occurring within the decidual spongiosa where lie the delicate trabeculæ and the most dilated vessels. Small hematomas are formed and help to hasten the complete separation. After separation there is a layer of the decidua basalis on the placenta and a layer on the uterine wall. The absence of the decidua basalis prevents the proper separation, there being no line of cleavage.

A search must be made for the cause of the absence of the decidua basalis in seeking the etiology of this condition. Such atrophy may be produced by any one of several factors:

1. Mechanical destruction of the endometrium from too vigorous a curettage.

2. An atrophic endometritis.

3. Localized atrophy or thinning of endometrium as would be found over a myoma.

4. Placenta implanted high in the uterine cornua where the musoca is thinnest, may be a contributory factor.

5. Functional disturbance from deficiency of corpus luteum.

6. Abnormal erosive power of certain syncytial cells, destroying a normal decidua basalis and continuing into the uterine muscle (Schumann).

Brown states that retention of placenta is more common in abortions than full term labors (15 to 1). Reicher's review of the literature seemed to bear this out.

Richmond, Barthilemy, Godson, Gallant and others report cases of retained placenta varying from four to twelve months. Newman reported a case retained for two years after a three month abortion. Thaush reported the case of a placenta retained through two successive pregnancies. No untoward results were reported in either case. Tritsch reported a case of placenta retained apparently six years. Her menstrual flow had been normal and regular and no complaints were suggestive of untrauterine pathology until the irregular bleeding occurred one month before examination. The medico-legal aspect of this problem must be considered.

Symptomatology: The placenta which is not delivered within two hours after the birth of the fetus may be termed a retained placenta. In placenta accreta there is little or no bleeding. The fundus is wide and not the typical ball-like shape assumed when the placenta has separated from the uterine wall. There are no complaints on the part of the patient.

Physical Findings: If after a period of waiting, varying with different clinicians from two hours to several days, it has been decided to attempt manual removal of the placenta the characteristic finding is that there is no line of cleavage between the placenta and the uterus. Any attempt at separation by tearing would cause alarming hemorrhage.

Diagnosis: Clinically a diagnosis can be made when the normal line of cleavage can not be found, allowing the placenta to be separated from the uterine wall. The histological examination confirms this when no decidua basalis is found and the villi are invading the uterine musculature.

Histologically the chorion frondosum consists of a connective tissue layer which lies next to the amnion and a layer of villi which are covered by an outer layer of trophoblastic cells. As each villus grows into the basal decidua which protects the muscular structure of the uterus from invasion, it makes for itself a space by erosion into the mucosa. This space is always larger than the villus which is growing into it and ultimately forms a spacious sinus or blood space, which is filled with maternal blood. Into this sinus the villus projects and becomes bathed in the maternal blood but does not penetrate beyond the protective basal decidua. These are called the floating villi; others, however, opposite the funic insertion and near the placental circumference become more deeply at-

tached and fasten the placenta to the underlying structures. The latter are called anchoring villi. The protection of the muscular wall of the uterus from the diffuse erosion of these villi, covered as they are with trophoblastic cells, is due to the fact that normally there is interposed a protective layer of decidual reaction in the basalis or serotina. Certain conditions cause this protective layer of endometrium to be absent or atrophied. This permits the villi to erode themselves into the muscular wall of the uterus and even penetrate through the uterine muscle. This fetal cell invasion so weakens the uterine wall that perforation is easy; the placenta and myometrium become a continuous inseparable mass.

Tennant reported a case in which the erosion was so marked that the placental villi not only penetrated the uterine wall but actually invaded the abdominal cavity.

Treatment: The treatment is hysterectomy. Some workers recommend it immediately, as soon as the diagnosis is made. Even if manual removal is done and the placenta removed apparently clean, hysterectomy is advisable in view of the pathology of invasion of the villi into the muscular walls.

The Major Gabaston (Currie) treatment of injection of 300 to 400 c.c. of saline solution into the umbilical vein would of course be ineffective in separating the placenta.

Complications: Hemorrhage occurs in placenta accreta only if separation has been brought about forcefully, which is in reality a tearing. This may be done either by extreme Credé or manual removal.

The uterine wall is thin and friable, especially in certain areas, and perforation has occurred either with manual removal or curettage. This of course means peritonitis with its serious outlook.

Sepsis may occur, perhaps with accompanying necrosis of the placenta.

Prognosis: With so few cases on record, reported and detail statistics are not conclusive. Three of the four cases reported by Polak died of sepsis or hemorrhage while the fourth recovered following hysterectomy. Polak reported that his own case and a case reported by Greifwald were the only two cases of placenta accreta which survived. Subsequently, however, Feiner and Nathanson have reported one case each which recovered also following hysterectomy.

The cause of death may be sepsis, hemorrhage or perforation of the uterus with resulting peritonitis. When manual removal is attempted and portions torn off, the bleeding is alarming at times, not even being controlled by intrauterine packing.

Klopten reports 46 cases with mortality of 87.5 per cent when they were conservatively treated compared with 14.5 per cent when treated by hysterectomy.

CASE REPORT

S. S., 24 years old, white primipara, housewife, entered the Salvation Army Hospital, November 2, 1935, because of slight aching in abdomen with approximately term pregnancy.

Last menstruation was February 17, 1935, which was reported to be normal. (E. C. D. Nov. 24, 1935). There had been no symptoms suggestive of a toxemia except occasional irregular vomiting which had persisted until the past few days. Movements were felt about the fourth month and had been felt daily thereafter. She had not presented herself for examination previously.

P. H.: The patient reported that she had been healthy most of her life, having had no serious or prolonged illness. Venereal history was denied. There had been no injuries and no operations. Menses: Onset at 16 years of age with a regular 28 day cycle lasting three days. (L. M. P. Feb. 17, 1935). Some leucorrhea was reported for the past month.

Examination: Fairly well developed, fairly well nourished female 24 years old.

Head and Neck: No gross pathology.

Chest: Lungs—Diffuse, bronchial râles throughout both sides. No consolidation.

Heart: Regular, quality good, no murmurs. B. P.: 155/105. Breasts equal, soft, no masses, normal size.

Abdomen: Distended by gravid uterus, small fetus, vertex presentation, left occiput anterior. No labor pains were noted.

External vulva apparently normal. No vaginal examination was done, due to the fact that she was approximately at term.

Rectal Examination: Cervix thick, firm, one finger dilatation, vertex presenting.

Lower Extremities: No edema, no varicosities.

Laboratory: Urinalysis showed albumin but no casts. Kahn test, negative.

The patient was advised to enter the hospital immediately for a complete check-up and pelvic measurements. November 22, 1935, (the following day) at 9 a. m. the report showed a comfortable night, with onset of moderate labor pains about 6 a. m. B. P.: 175/130. Fetal heart good. November 22, at noon, pains continued. B. P.: 155/105. Cervix still moderately thick and only two finger dilatation. Fetal heart could not be heard. At 1:45 p. m., November 22, patient had an expulsive labor on non-sterile field, stillbirth, five pounds. The placenta failed to deliver after an hour and a half in spite of uterine massage. Moderate bleeding continued. A manual removal was decided upon and attempted under caudal block, but the patient went into mild shock and bleeding stopped, and it was decided best to return her to the bed and institute treatment for her systemic condition. This was done, consisting external body heat, glucose, etc. Pituitrin and three one dram doses of ergot were administered. Her general condition gradually improved. The following day her blood pressure was 145/88, there was no bleeding, and no temperature. There were no unusual symptoms, no bleeding, no temperature until November 26th (fourth post partum day) when the temperature rose to 102.8 in the afternoon. This continued daily until November 29th (seventh post partum day) when the temperature was 103.8°.

Subsequent laboratory examinations showed:

Urine specific gravity 1.006, reaction acid, albumin one plus; sugar, negative. Microscopic negative.

Blood: Hemoglobin: 48. Erythrocytes: 2,-160,000. Leucocytes: 19,550. Differential Lymphocytes: 16. Monocytes: 1. Neutrophiles: 83. Slight achromia, slight poikilocytosis, slight polychromataphilia, many crenated red cells.

No November 29th (seventh post partum day) it was decided to attempt a manual removal of the placenta because of the continued temperature, though no bleeding had been noted. The uterus was firm and slightly below the umbilicus. Spinal anesthesia was used. (100 mg. novocaine crystals.) The cervix was found moderately well dilated and soft. The placenta, which was necrotic, with a foul odor, was found to be still adherent tearing apart when any traction or attempt was made to separate it. Due to the general condition of the patient and the extreme difficulty in completing the removal of the placenta, it was considered advisable to stop though portions of the placenta were still retained. Hysterectomy was scheduled if the patient's condition warranted.

The patient had been previously typed and 500 c.c. whole blood was given by the multiple syringe (Lindemann) method. The patient was returned to her bed in fair condition. She rapidly became worse and had several convulsive-like seizures. She died at 12:27 a. m., approximately twelve hours after operation.

An autopsy permit was obtained and was performed by Dr. M. Gillies.

The body was that of a young white female well developed and well nourished. No external marks or scars were noted. The abdomen was considerably distended but not rigid. The body had been embalmed.

An incision was made from the manubrium sterni to the symphysis publis, the costal cartilages were cut and the sternum reflected upward.

Heart: Normal. The right chamber was dilated and filled with blood clot.

Lungs: Voluminous; some hypostatic congestion. Otherwise normal.

Liver: Large. Color and consistency normal.

Kidneys: Both showed subcapsular petechial hemorrhages. The capsule stripped easily and cleanly. The cut surface showed small clots of blood in the tubules and calyces. The picture suggested showers of small emboli causing hematuria. The cortex and medulla were well marked.

Spleen: Slightly enlarged, fairly firm. A few small infarcts like those seen in the kidney were noted.

Pancreas and Adrenals: Normal.

Stomach and Bowels: Normal, except for gaseous distension. There was no evidence of peritonitis.

Uterus and Adnexa: The uterus was about the size of a large grape fruit, dark red in color and quite firm. Cutting showed rather thin walls, deeply invaded by placental tissue. In the cavum there was a large mass of the latter attached to the right side and fundus of the uterus. The whole mass was very necrotic and the exposed surface was sloughing. The adnexa showed no lesion.

No further examination was made.

Microscopical: Myocardium—The muscle fibers and more particularly the interstitial tissue show edema. There is a slight diffuse leukocyte infiltration.

Liver—The hepatic cuts are very degenerated but no other lesion is seen.

Kidney—The kidney shows marked degeneration, especially the tubular epithelium. There are areas showing numerous small interstitial hemorrhages.

Spleen—Engorged. The lymphoid tissue is abundant and active. Microscopically no evidence of infarct can be seen.

Uterus — The placenta infiltrates the muscle deeply so that the surface of the latter is ragged; in some parts, apparently those near the margin of the placenta, there is a profuse inflammatory cell infiltration. Isolated masses of muscle tissue are necrotic. That part of the muscle near the center of the placenta shows necrosis but no inflammatory reaction. No decidua basalis is seen in any of the sections. Syncytial cells are found among the muscle fibers. Occasionally large anchoring villi are found deeply embedded in the uterine muscle.

Summary: Retained placenta with infection. Toxemia and probably septicemia with degeneration of liver, kidney and myocardium.

Discussion: The primary lesion here is the retained placenta. In the uterus the absence of a decidua basalis, and the invasion of the muscle by syncytial cells and villi indicate the condition known as placenta accreta. The infection and toxemia are due to the retention of the placenta.

Conclusion: Death due to infection and toxemia following on a retained placenta.

Summary: This case of placenta accreta is being presented because of the rarity of the condition, being estimated as occurring in from one in six thousand (Polak) to one in forty thousand (Hirst.) Also because the usually accepted etiological factors were not present in this case. There had been no previous pregnancies, no curettage, no myoma, no evidence of atrophic endometritis nor clinical evidence of corpus luteum deficiency. The placenta was implanted high in the uterine cornua.

The ideal treatment, hysterectomy, was planned in this case, but the general condition of the patient did not permit it.

Professional Building

PSYCHOLOGIC WEANING

There is a "phychologic weaning" that takes place in the lives of adolescents that is just as truly a weaning as is the separation of a nursing child from his mother, declares Dr. Frank Howard Richardson in his article "After Adolescence—What?" that appears in the October *Hygeia*.

This phychologic weaning occurs when the youth gets away from his family, mentally or spiritually. It frequently gives rise to just as much unhappiness and mental discomfort as the earlier weaning; and it is a two-sided affair.

OPERATIVE INTERVENTION IN OBSTETRICS*

By NORRIS W. VAUX, M. D.
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THE ALL important question of operative intervention has brought about so much discussion among obstetricians that it is only wise to place before you both sides of the question. It is important to emphasize the fact that it is not so much the question of operative intervention itself which has to be considered, but the fact that there should always be a clear-cut indication for the intervention. It is also wise to consider whether or not those who are practicing operative intervention have been properly trained in this particular phase of obstetrics.

About a year ago, Eardley Holland of London, England, read before the American Gynecological Society at Seaview, New Jersey, an extremely interesting and very valuable article on birth injuries in relation to labor. Although confining his remarks chiefly to the intracranial injuries and fetal mortality in England and Wales, he set forth, in a most masterly manner, the views of some of the world's outstanding authorities on the injuries occurring at childbirth. In the National Statistics as published by the Departments of Health and L. K. Frankel, Vice-President of the Metropolitan Life Insurance Company in New York, dealing with the infant mortality figures in the United States registration area for the year 1927, Frankel drew attention to what he considers a startling fact, namely, the sharp increase in the death rate from birth injury; and inferred it was due to the increased use of instruments to hasten delivery. Holland further states that if we misread our National Statistics, we may be led to believe that deaths from birth injury are increasing in number and draw false inferences therefrom. Holland makes some interesting remarks relative to this subject, in which he admits we are justified in asserting that the number of deaths from birth injury has increased remarkably. All we can infer is that the number of deaths certified by doctors as due to birth injury has increased, but during the last twenty years "knowledge about birth injuries and their diagnosis has become widely diffused and death certificates in this respect have vastly improved." The amusing part of this statement is that he quotes "the injuries are not more in the heads of the babies, but more in the minds of the doctors." I therefore come to the special significance of operative intervention in obstetrics today.

First, operative intervention should be performed with clear-cut indications. As the modern trend in the large maternities today is for the use of some sedative during the course of labor, the result thereby obtained makes the spontaneous delivery less likely to occur. I advocate strongly that the individuals who practice operative intervention should be thoroughly equipped and trained in this operative technique. My feelings cannot coincide with those of individuals of note who are of the opinion that termination of the second stage of labor when the cervix is fully dilated and effaced and the vertex completely through the cervical ring, is contraindicated or harmful, provided the procedure is undertaken by a well-trained and equipped physician, in a well-maintained and efficiently staffed institution. In fact, I believe that timely operative delivery lessens the risk of intracranial injury incident as well as many other of the abnormalities which may occur, if the individual was permitted to continue to spontaneous expulsion. The vertex is better controlled in forceps operation, the episiotomy is more satisfactorily completed with a

*Read at the Second Annual Meeting of the West Virginia Obstetric and Gynecologic Society, Clarksburg, W. Va., May 27, 1937.

great saving of hours of suffering. The strain on the uterine musculature, pelvic floor, and the tissues of the child which are passing through the canal, is most assuredly lessened. Faulty attitudes and positions are more readily found early, and more easily corrected by forceps or manual rotation in occipitoposterior positions under light anesthesia, nitrous oxide preferred. Forceps, used properly and judiciously, can take a favorable place in the obstetric armamentarium, and substitute for the natural forces, provided the extraction is not too rapid, but intermittent in character. In this way the forceps help to avoid at least some of the compression on the intracranial vascular system. Forceps must always be applied accurately in cephalic position. If these principles are followed, the so-called low operation, where the vertex is level with the ischial spines, might be virtually without risk.

A different problem presents itself when operative intervention and delivery is indicated in cases such as transverse arrest in mid pelvis, where the spontaneous mechanism of labor has broken down. This problem is one which not only involves the child itself, but the maternal soft parts as well. I agree with Holland when he asks the question, "Would not an immense amount of injury be avoided if the student and practitioner were taught the use of an instrument that could be used only when the head is in low pelvis?" There are many other indications for operative intervention; namely, the decomposition of the breech, occipitoposterior positions, the rapid termination of delivery for prolapsed cord, and certain cases which have a moderate cephalopelvic disproportion with unruptured membranes, where the operation of internal podalic version as described by Potter, is the method of choice.

Second, among the methods employed are forceps, low and outlet, rotations of the vertex in delayed or arrested cases, manual rotation, if executed properly with understanding of the mechanism, breech extraction, Braxton Hicks and internal podalic version, and operative laparotomy where indications present cephalopelvic disproportion of magnitude, or devastating hemorrhages in the last trimester of pregnancy complicated by premature separation of the placenta and placenta prævia. Under no condition is operative intervention in obstetrics justifiable without the diagnosis, position and presentation being accurately diagnosed. The mechanism of labor must be thoroughly understood. In certain instances this error in diagnosis of the position and presentation is the cause of failure in operative delivery through the birth canal. It is not sufficient in operative intervention cases to know that the vertex or breech presents, but to determine the factor which has been responsible for the faulty mechanism or the transverse arrest. In breech position, the accurate position of the fetal structures in the pelvic cavity must be determined. The condition of mother and infant is always of great importance, and operative intervention on an exhausted infant or mother is always conducive to the immediate and severe complications and subsequent sequelae which is apt to follow in the puerperal state. Operative intervention should be used, to my mind, prophylactically, and not as an emergency to bring the individual out of all of her afflictions. This latter will probably produce more serious complications, such as third degree lacerations and high maternal and stillbirth mortality.

Third, the conduct of delivery room operative intervention should be stressed. No one should be permitted to start operative intervention on an individual unless the operating or delivery room is prepared to meet all of the accidents which might occur in labor; namely, operative shock and serious post partum hemorrhage. A sufficient number of trained assistants and equipment for resuscitation and care of the newborn is essential in operative intervention, and should be at hand at all times to meet the emergency.

In the time allotted to me, I feel it would not be amiss to go into more detail regarding operative intervention which is so often necessary in those cases of posterior position and

transverse arrest at high or mid pelvis. It has been my experience that the labor and mechanism in posterior positions is not normal. The diagnosis should be definitely made at the onset of labor and not when the labor mechanism has stopped or become arrested. If we know from the beginning of labor the absolute and positive findings, we can be prepared for the probable peculiarities attendant on the posterior or abnormal positions, which, in all probability, require operative intervention for the termination of the labor. The posterior positions do better if given a reasonable amount of time, plus sedation of one type or another. A protracted labor, which is common in cases of posterior position, is conducive to the production of secondary inertia uteri, resulting in post partum hemorrhage or possible intracranial injury, and perhaps intrauterine suffocation of the fetus.

No attempt at operative intervention should be made in posterior positions until the cervix is fully dilated and the vertex has come through the cervix. It is, we consider, unjustifiable to apply forceps on a vertex that is not fully engaged in the pelvic brim. The exhaustion of the mother by a prolonged labor and the secondary inertia uteri produced in the musculature of the uterus may mean serious and fatal results for both the infant and mother. The patient should be fortified against resultant operative shock, by some form of analgesia. Nourishing food and time are essential. Intravenous glucose is of greatest benefit and analgesics must be used with reason and caution sufficient to allow of certain recuperation on the part of the tiring maternal structures. If manual rotation is possible, and after the rotation is completed, the application of forceps for extraction is the ideal method of delivery. If the vertex is arrested in the transverse position and has become extended by the posterior mechanism, flexion of the occiput and application of the Bill modification of the Tucker McLean forceps with internal rotation, is productive of very startling and beneficial results. Internal podalic version resorted to as an emergency type of delivery, in those cases where the amniotic sac has drained its fluid for many hours previous to the intervention and the uterus has clamped down on the body and structures of the fetus, is in all probability the worst possible method of delivery. Rupture of the uterus and multiple injuries to the fetus can be brought about with little difficulty by this ill-advised method of procedure. Where the cervix is widely open and there is no major cephalopelvic disproportion and the membranes are unruptured, internal podalic version is highly satisfactory and gratifying.

Do not consider that once the delivery has been completed in these abnormal cases, your troubles for either mother or child are over. They have only begun. Careful and continuous observation for relaxation of the uterus and post partum hemorrhage is imperative. The injuries which might have occurred, such as cervical lacerations and perineal body tears must be immediately repaired if the patient's condition warrants a further anesthesia. Sepsis must be guarded against. The low reserve of the individual and the possible loss of blood, as well as the hours of pain through which the patient has passed, are conducive to, and tend to lower the resistive power of the patient to infection, and consequently morbidity and other sequelæ are likely to result. Operative intervention in the form of laparotomy has met with too great success in the hands of many who are not qualified to perform this surgical procedure. The low Beck operation, the trachelolaparotomy of DeLee, the Latsko operation and the Kerr operation, are safe in potentially and infected cases, in the hands of the expert, trained in operative obstetrics.

Finally, operative intervention is for those individuals who have been trained in this special work. The complete survey and analysis of the individual case is necessary. A well regulated maternity hospital is the only place in which operative intervention should be undertaken. This whole subject of operative intervention is one of special training and for specialists.

ABORTIONS AND THE MATERNAL DEATH RATE*

By THOMAS W. NALE, M. D.
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MUCH has been written about our high maternal death rate in this country. We agree with these writers that our maternal death rate is too high, but we feel that they should make a more careful analysis of these death rates. Our death rates are dependent upon the proper reporting of deaths by physicians. I wish to discuss the part abortions play in keeping up our high maternal death rate. Owing to the attitude toward abortions and the legal regulations, many abortions occur and physicians are not even called. Abortions are not generally reported. More than one-half are done criminally and of course these are not reported. Only in Russia where abortions were legalized, can we expect to find any percentage of cases reported.

It might be well to define the term abortion as referred to in this discussion. It will denote the previable expulsion of the human ovum. It will include all cases from the earliest conceptions to the twenty-eighth week of fetal life.

There is reported in the birth and death registration areas of United States around 15,000 maternal deaths a year and I feel that at least one-third of these are due to abortions. The incidence of abortion has no doubt been grossly exaggerated. From Germany come estimations of 300,000 to 1,000,000 a year. Some have estimated that there are as many as 100,000 a year in New York City alone.

Dr. Frederick Taussig of St. Louis has probably made as thorough a study of this subject as anyone in the world today. In 1936 he published a monograph on this subject. He analyzes the incidence of abortions and numbers of deaths from abortions as follows:

Dr. Kopp in her monograph on birth control in practice—studied 10,000 case histories in New York City clinics and found a record of 11,172 abortions as compared with 27,-172 deliveries in 38,985 pregnancies or a rate of one abortion to 2.5 confinement. Dr. Plass reports figures from eighty-one physicians with country practices in Iowa and these show a rate of one abortion to five confinements.

With a population of 120,000,000 and a birth rate of twenty per 1,000, we get 2,-400,000 births annually. This corresponds fairly well to figures now available from the birth registration area in the United States. Of our population 42 per cent are urban and 58 per cent are rural. Using these percentages we find 1,008,000 births among our urban population and 1,392,000 births among our rural population. Estimating one abortion to 2.5 confinements for our urban population and one abortion to five confinements for our rural population we find 403,200 abortions per year among our urban population and 278,400 among our rural population or a total of 631,600 abortions annually in the United States.

Now what percentage of patients die who have had these abortions? Various estimates have been made and some run as high as 2.5 to four per cent. The average maternal death rate following abortion for the civilized world is approximately 2.1 per cent. This would mean out of 681,600 abortions annually in United States, 14,313 die, which on its face value equals almost our total maternal death rate. According to Dr. Taussig the most accurate study of the mortality rate from abortions was made by Dr. Freudenburg in Germany. He found that the death rate due to abortions averaged 1.2 per cent. Using this percentage and a total of 681,600 abortions,

*Most of the material in this paper was obtained from Dr. Frederick Taussig's monograph on abortions, published in 1936. The remainder was obtained from the reports of the Children's Bureau.

we would have 8,179 deaths per year due to abortions. This is a conservative figure and who of our critics have mentioned this figure when they write and talk about our high maternal death rate? If we need reinforcement of these figures let us reflect that for every woman who dies as a direct result of abortion, several women are disabled, sometimes permanently, or are rendered sterile, or at a subsequent pregnancy suffer from the after effects of abortion. Abortions constitute the greatest single factor in our high puerperal mortality.

We must bear in mind that case reporting in this condition is very inadequate. In the completed report of the Children's Bureau (1934) the subject of abortion is given special study and is summarized as follows: "Probably the most outstanding finding of this study is that one-fourth of all maternal deaths followed abortion. Almost three-fourths of the deaths following abortion were due to puerperal septicemia and these deaths from sepsis following abortion constituted nearly half of all the deaths from septicemia, the greatest single cause of maternal mortality." In Detroit in 1935, one-third of the puerperal deaths were due to abortions. Dr. Reinbergh found that abortions were responsible for 33 per cent of the puerperal deaths in Memphis, Tennessee. In West Virginia in 1935, 23.1 per cent of the puerperal deaths was due to abortions.

Let us consider what type of American women are dying from these abortions. The Children's Bureau reports that of 1825 women who died following abortions only 186 or 10 per cent were unmarried, the remaining 90 per cent were married. Ninety per cent of the deaths occur between the ages of twenty-five and thirty-five years. In an analysis of 11,172 abortions in New York City there was evidence of an increasing number of inductions with an increasing size of the family. The largest percentage occurred in individuals in the middle class. We can easily see that this is largely the type than can least be spared.

Sixty to sixty-five per cent of the abortions are performed illegally. Only ten to fifteen per cent are done for therapeutic reasons, while twenty-five to thirty per cent are spontaneous abortions. Of the illegal abortions one-half are done by physicians; one-fifth by midwives and the rest by the patient herself.

Any discussion of abortions naturally brings to our minds the experience of the Soviet Union with its legalized abortions. Abortions were legalized by the Soviet Government on November 11, 1920. After a few years the Soviet Government could not provide hospital accommodations for all the women who desired an abortion.

In Moscow in 1914 there were thirty-one births and three abortions per 1,000 general population. In 1927 there were twenty-six births and nineteen abortions per 1,000 general population. Moscow had two abortoria, each of 250 bed capacity with hospitalization limited usually to three days. There was a total of 43,800 abortions a year in these two institutions. Ninety-one thousand abortions were done in Moscow in 1931.

Before an abortion was done every woman was required to state the reason for the requested abortion. Genss, analyzing 200,000 legalized abortions, gave as the reason, poverty 66.4 per cent; illness 19.3 per cent; desire to conceal pregnancy 1.6 per cent; infant at the breast 12.6 per cent.

In comparing German and Russian mortality figures in abortions, in Germany they vary from 1.5 to 4 per cent, while in Russia statistics give a mortality of 0.01 to 0.04 per cent or 1/100 the German rate.

Even the most enthusiastic of the Russian advocates of legalized abortion are however appalled at the growing evidence of serious pelvic disturbances, endocrine dysfunctions, sterility, ectopic pregnancy and other complications following in the wake of artificial abortions. These facts coupled with the falling birth rate in Russia undoubtedly had a lot to do with the repeal of legalized abortions by the Soviet Union. We may prefer to have such an experiment carried out in

some other country than our own, but regardless of the outcome, the facts that have been brought to light will be of greatest value in our analysis of this problem.

There have been ascribed several underlying faults in our social structure that have led to the present alarming number of abortions.

1. Economic distress. In Russia over one-half of the abortions are done because of economic distress. While our country has no similar tabulation, there is a general agreement that a direct relationship exists between induced abortion and destitution.

2. Occupational changes. Unusual ability in the artistic, intellectual and administrative fields has enabled some women to add materially to the progress of the human race and when this work is interrupted by the physical disability of a pregnancy the question of what is justified, demands fresh consideration. Then there is the problem where the woman is the breadwinner of a family. Shall she lose her job and earning capacity because of a pregnancy?

3. Illegitimacy is no longer the dominant factor in induced abortion that it was a generation ago.

4. Domestic relations seriously influence the incidence of abortion. Women resort to abortion when there is a record of drunkenness or sexual depravity by the husband. Husbands seek escape from responsibility by deserting the mothers of their children. The mothers in desperation have abortions performed.

5. Fear of confinement should rarely justify abortion with our modern use of analgesics and anesthetics at time of delivery.

How shall we control this wasteage of human life through abortions? For the present we must make provision for the care of these unwanted pregnancies rather than have the mother resort to abortion. Better provision for the care of those who have been aborted and more knowledge as to how to handle the infected cases by the physician will decrease our mortality rate. In the future birth control will doubtless prove an important factor, as a check on unlimited families. All measures that lead to a wider distribution of wealth will certainly improve living conditions among the poor and thereby decrease the necessity of resorting to abortions as a release from increasing poverty.

All efforts to control the incidence of criminal abortion by legislation have resulted in failure, yet as experienced in Russia entire freedom of control is not satisfactory. Undoubtedly we will have to have some widening of our scope of indications for abortions. Most can be gained through education. The public must be instructed on the value of life and the dangers of abortions.

This is a problem in our maternal mortality that cannot be corrected by the physician and surgeon alone. The vast majority of our doctors are not abortionists. Their task is to take care of those already aborted under the most unhygienic conditions. With the public's help and intelligent medical care much can be accomplished in reducing this high death rate from abortions and at the same time reduce our maternal death rate.

W. Va. State Department of Health
Charleston, West Virginia.

SCHOOL ADJUSTMENT

The "average" teacher is likely to be concerned about her crippled pupil's comfort and safety in school, to be doubtful of what part he can or should take in the classroom activities and—most important of all—to be somewhat artificial in her own relationship with him because his handicap may be so obvious as to disturb her common sense evaluation of him as a pupil.

To clarify these perplexities, Marjorie P. Sheldon has written an article called "The Crippled Child in School" for the October *Hygeia*. She declares that a felicitous adjustment of a physically handicapped youngster to his school routine depends first of all on a sensible, business-like relationship with his teacher.

The first essential to this is that she herself should be completely at ease with him in regard to his handicap. If she realizes that the child himself is not constantly disturbed by his handicap, she will approach the situation from a better standpoint.

DIAGNOSIS OF THE POSITION OF THE PLACENTA IN UTERO*

By H. G. STEELE, M. D.
Bluefield, W. Va.

WE KNOW that the placenta may attach itself to any portion of the uterine wall. The idea of diagnosing, by auscultation, the exact location of the placental attachment came to me first in 1915. During the following year a paper, "The Position of the Placenta in Utero", was presented. Between 1916 and 1929 this diagnostic method was used in my obstetrical practice, so that I felt enough reliable information had been obtained to warrant the preparation of a second paper. This was entitled, "Early Diagnosis of Placenta Prævia." Later this subject was again a part of a paper, "Practical Points in Obstetrics," which was read at the Oak Hill meeting of the Fayette County Medical Society in July, 1933.

It is my sincere opinion that by auscultation after the sixth lunar month of pregnancy, the more or less exact location of the placental attachment may be diagnosed in at least 75 per cent of all cases. The chief value of this knowledge, naturally, lies in the fact that cases of placenta prævia may be diagnosed as such, early enough to provide proper measures before hemorrhage manifests the danger signal.

The uterine souffle was probably first described by Keraradic as a sound heard at the sides of the pregnant uterus. This sound is synchronous with the maternal heart beat, is soft, blowing, yet of a rushing character similar to the bruit heard in aneurisms or in the veins of the neck. A woman, listening through a stethoscope to a patient's uterine souffle, compared it to the noise of a train passing through a tunnel. It varies as to intensity, position and character. At times it is so pronounced that fetal heart tones are not audible. Again it may be scarcely heard and even absent for varying periods. Depending upon the position of the placenta, it may be found over any part of the uterine wall. It may be humming, blowing, harsh and even musical.

For practical diagostic purposes, the seventh lunar month is early enough for our use of this method. Text-books do not mention this procedure in the diagnosis of placenta prævia. However, by careful attention to the sound and by marking on the abdomen the points at which it is most clearly elicited, practice will soon result in a diagnosis of most placental attachments. Naturally there are conditions under which determination of the uterine souffle is difficult or even impossible. It is usually not heard in cases of polyhydramnios. It may be difficult to find in cases of multiple pregnancy. A fat, thick, abdominal wall may make it difficult to be heard. It is also difficult to find in posterior wall placental attachments, especially if near the center. It is absent in abruptio placentæ.

Although Dr. C. M. Thurman, of Germantown, Pa., recently devised a special vaginal stethoscope with which he could verify clinical findings in placenta prævia, such an instrument has its disadvantages. Careful preparation of the perineum is necessary for vaginal examination and the well known dangers of vaginal instrumentation are patent to all of us. By the auscultatory method no preparation is necessary, and there are no attendant dangers of inducing infection or hemorrhage.

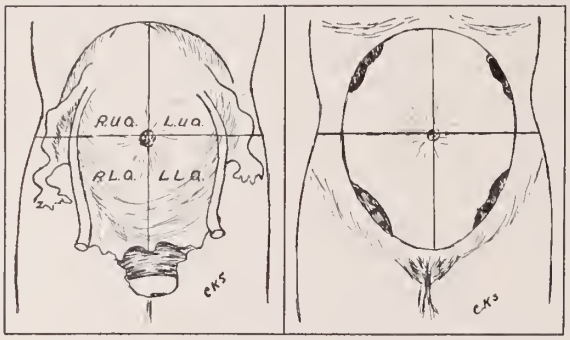
CASE HISTORIES

No. 1: Just before a Caesarean section at the Bluefield Sanitorium in 1919, I was permitted to auscultate the patient's abdomen

*Presidential Address Delivered at the Second Annual Meeting of the West Virginia Obstetrical and Gynecological Society, Clarksburg, W. Va., May 27, 1937.

and located the placenta in the L.L.Q. This was verified by the surgeon who found the placenta attached to the left wall in the lower uterine segment.

No. 2: A patient bleeding from the uterus was brought into Mountain View Hospital in 1921. She was about six months pregnant. In auscultating her uterus a diagnosis of placenta prævia marginalis was recorded. When the fetus and placenta were expelled a few



Left—A drawing representing the quadrants of the uterus at nine months' gestation.
Right—This represents a drawing, made on my history charts, showing the locations of the placenta as found by auscultation.

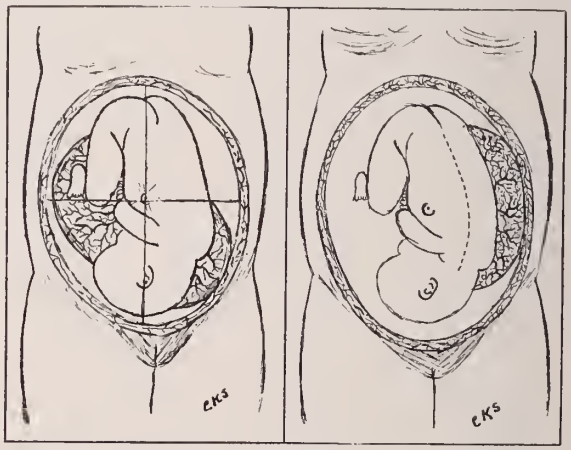
hours later, one-third of the placenta was found congested and covered with clotted blood, proving the recorded diagnosis to be correct.

No. 3: Mrs. A. L., age 21, primipara, was diagnosed in her sixth month of gestation as having a placenta prævia. She began to have slight hemorrhages on May 17, 1929, and her estimated date of labor was May 22, but she was not delivered until the 28th. She was taken to the hospital on May 17, but on account of the bleeding ceasing and no further symptoms of labor, she was returned home. Two days before delivery, when the bruit was heard over an extensive area, it was thought she had a large, or a double placenta with the fetus in right occipito posterior position. She had slight hemorrhages throughout this period. When I saw her on the 27th, she had light labor pains but no bleeding. At 10 a. m. the next day she was in hard labor and bleeding moderately. I pleaded with her husband and her mother to permit me to take her to the hospital; this was refused. The membranes ruptured and the cervix was completely dilated manually by 1 p. m. The character of the pains were weak.

Ether analgesia was produced and by 1:30 p. m. the surgical stage was reached. After an unsuccessful attempt to apply forceps to the floating head, a podalic version and extraction of a living baby was performed. A complete second degree laceration of the perineum resulted.

One c.c. of pituitrin was administered hypodermatically. The perineum was repaired and the placenta delivered. Massaging of the uterus and pressure on the fundus was kept up quite a while and one c.c. of ergot was administered hypodermatically as soon as the placenta was expressed. She was comfortably arranged in bed, hot water bottles placed about her and a saline proctoclysis begun.

The anesthetist, thinking the patient was



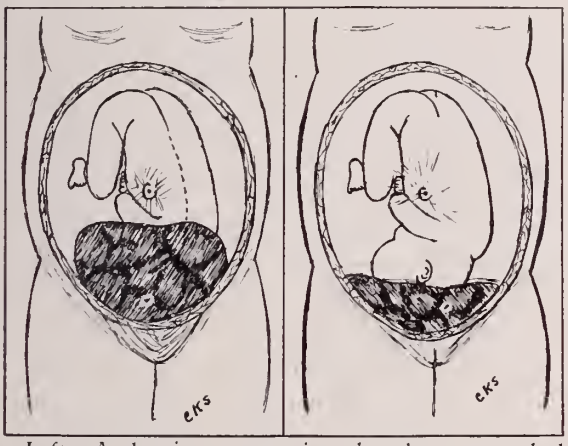
Left—A drawing representing the placenta attached on the posterior wall of the uterus, in the left lower quadrant, and in the right upper and right lower quadrants.
Right—Represents a drawing with the placenta attached on the posterior wall of the uterus in the left lower right upper quadrants.

recovering nicely, went home, but she died fifteen minutes later. This case was the only mother I ever lost in labor.

No. 4: Mrs. R. R. began to have pains at 7:00 p. m., January 30, 1934. On auscultating her abdomen the uterine souffle was heard in the L.L.J.—A. and P., and in the R.U.Q.—P. After the baby was delivered and placenta expressed the dimensions of the latter were 23 x 24 x 1½ cm.—an extra large placenta. Proving the above location by auscultation, was more than likely correct.

No. 5: Mrs. W. C. B. with an estimated date of labor February 7 to the 21, 1934. When her history was taken December 5, 1933, the uterine souffle was located in the L.L.Q. and P. On the day of delivery, February 20, 1934, it was heard in the R. and L. L. Q's. and not being heard on any portion of the anterior wall of the uterus, it was decided the placenta was attached to the posterior wall, and not low enough to suspect a placenta prævia. The loss of blood from delivery was from 300 to 500 c.c. and the normal placenta's dimensions were 15 x 16 x 2 cm.

No. 6: Mrs. E. B.'s first prenatal examination was made on August 30, 1933. On January 4, 1934 the uterine souffle was heard in the L.L.Q., and two fetal heart sounds were detected, one in the R.U.Q., the other in the L.L.Q.



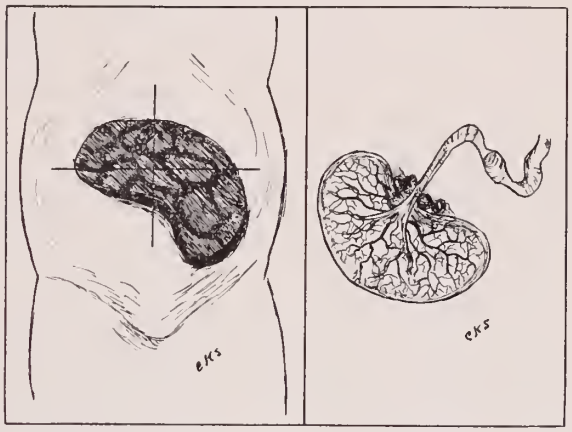
Left—A drawing representing the placenta attached high on the anterior wall of the uterus in the right and left lower quadrants. It may, or may not be a placenta prævia marginalis.

Right—Represents the placenta attached on the lower portion of the lower segment of the uterus. The uterine souffle heard in the right and left lower quadrants. This represents a placenta prævia totalis.

On the day of delivery, March 3, 1934, the uterine souffle was heard in the upper half of the lower quadrant and the lower half of the upper quadrant, for 20 cm. along the left wall of the uterus.

After the first baby was delivered I had an occasion to put my hand into the uterus, encountering the unruptured bag of waters in mid-pelvis with the head at the brim. Extending my hand further up on the left side, the placenta was found to be attached as previously located with the stethoscope, i.e., on the left wall of the uterus and extending to the right, posterior and well above the internal os.

On delivering the single placenta, the mechanism was that described by Duncan, i.e., the edge of the placenta came out first, with the smooth or fetal surface up, or anterior, and the maternal surface down, or posterior, toward the mother's sacrum.



Left—A drawing representing the placenta attached to the anterior wall of the uterus outlined by auscultation as being the shape of a kidney.

Right—Is a drawing representing the placenta, as shown in #7, after its expulsion, showing four calcarious bodies on one side.

With one cord in my right hand, the other in my left, and making slight traction on both, the placenta did not rotate, convincing me that this placenta had been attached to the posterior wall of the uterus, with the edges spread out to the left and right far enough to produce the sound as previously heard through the stethoscope.

The dimensions of the placenta were 22 x 22 x 2½ cm. when I consulted the record of the February 27th visit I found that the uterine souffle was heard in the R.U. and R.L.Q.'s for 18 cm. along the right and eight cm. over the anterior wall of the uterus.

No. 7: On the day Mrs. M. H. was delivered, March 22, 1934, the placenta was outlined on the anterior wall of the uterus, as the shape of a large kidney, and when it was expelled its dimensions were 18 x 13 x 1½ cm. Two rather large and two small calcareous deposits were noted along one side,

for a distance of one-fourth the circumference, giving the normal, healthy, placenta tissue the outline of a kidney, as indicated by the stethoscope a few hours before.

No. 8: When I saw Mrs. E. D. C. in consultation with her family physician on January 17, 1934, she gave the date of onset of her last menstrual period as April 23, 1933, making her estimated date of labor January 30, 1934.

She gave a history of having had uterine bleeding at times since the middle of October, 1933. They would last from seven to nine days at a time, but would stop when she would lie down and become quiet.

We found large clots of blood hanging on the vulva and perineum. The fetal heart sounds were heard to the left of the umbilicus, 160 to 170 beats per minute.

The uterine souffle was heard in the R.U. and R.L.Q's. in an area of 19 x 9 cm., with the lower border possibly over the internal os. On account of the probable detachment of this margin of the placenta, no uterine souffle could be detected nearer the center than four to six cm. to the right of the median line.

About noon the next day, I was called in to see the patient, who was found to be quite weak and anemic with some large clots of blood in the bed.

The uterine souffle was heard in a smaller area than at the previous visit, and fetal heart sounds were elicited.

A bimanual examination revealed clotted blood with the lower, detached edge of the placenta filling the well dilated cervix. While the family physician was completing the breech delivery the fetal heart sounds and the uterine souffle gradually disappeared. The baby died in the uterus and a portion of the placenta was detached manually from the uterine wall, where it had previously been auscultated.

No. 9: A prenatal visit, May 10, 1933, Mrs. G. B. gave the onset of her last menstrual period as December 29, 1932, making the estimated date of labor October 6, 1933. I was called at 2:00 a. m., June 6, in the twenty-third week of gestation and found an incomplete abortion with the fetus delivered, all but its head hanging in the vagina.

The uterine souffle was heard in the R.U. and the upper portion of the R.L.Q.—A.

Listening to this souffle several times and the placenta not being expelled by 3:10 a. m., twenty-five minutes after the delivery of the head, my hand was inserted into the hourglass contracted uterus. With the aid of ether the placenta was slowly detached manually. At times, listening to the souffle, the area of sound gradually became smaller until it became the size of a silver dollar. When the detachment was completed, the sound of the souffle instantly disappeared.

No. 10: While in Huntington, in May, 1934, the uterine souffle was heard in the L.L.Q.—P. of Dr. W. N. Rowley's patient, just previous to a low Caesarean operation. When the placenta was removed it was found to have been attached in the L.L. and R.U.Q's.—P. Therefore the auscultatory diagnosis was correct.

Conclusions: 1. The auscultatory diagnosis of the position of the placenta in utero can be made with a high degree of accuracy.

2. The auscultatory interpretation should be in agreement with the findings of the abdominorectal examination.

3. If the interpretation is based on sufficient experience, it will invariably corroborate the clinical findings, provided that these also have been made by an experienced observer.

4. The great value of this method lies in the fact that it permits a fairly accurate diagnosis without producing contamination of the genital tract.

5. Some of the greatest advantages of this simple and practical procedure are that any physician, trained in the use of a stethoscope, may be taught, or learn, to locate the position of the placenta in utero with a reasonable amount of success; it can be used in the most humble home; it does not require the aid of an x-ray machine, a laboratory technician nor hospital facilities. Finally, it is believed that

with the aid of this method of diagnosis, the percentage of morbidity and mortality, in both mother and child, in Caesarean and placenta prævia cases, will be greatly reduced.

REFERENCES

DeLee, Joseph B.: *Principles and Practice of Obstetrics*, 1913-1928, W. B. Saunders Co., Philadelphia.

Ude, Walter H. and Urner, John A.: American Journal of Obstetrics & Gynecology, May, 1935, F. A. Davis Co., Philadelphia, 1932.

Bland, P. Brooke: *Practical Obstetrics*.

Williams, J. Whitridge: *Obstetrics*, 1903—D. Appleton and Co., New York.

Davis, Carl Henry: *Gynecology and Obstetrics*, 1934, Volume I, Chapter 18, page 25.

Review of Medical Progress, 1933, page 601-605.

RECTAL ETHER-PARALDEHYDE VAPOR IN OBSTETRICS

By A. P. Hudgins, M. D.
Charleston, W. Va.

In tabulating the advantages and disadvantages of the various analgesics used in obstetrics, with the hope of coming to some conclusion, the writer came to the conclusion that a vapor from an ether-paraldehyde solution administered by rectum had the most advantages and the fewest disadvantages.

The principle is simple: ether and paraldehyde are placed in a bottle and warmed; the vapor is transmitted to the lower bowel by a regular colonic or rectal tube.

The advantages of this method are:

1. The dose can be controlled. When the patient becomes drowsy, the tube can be clamped or the heat stopped if only a dram of the solution has been given. This is in contrast to the usual methods of administration when a given dose is thrown into the system at one time—with concentrated effect for awhile—perhaps overloading, in order to have moderately prolonged sedation. The case of the barbiturates may be cited. Many workers recommend three or four times the average dose for the initial administration. In rectal ether-in-oil, the full dose is given at one time. The effect, of course, is not uniform over the following two or three hours.

2. There is no stage of excitement. The patient, to be sure, may show random movements but the entire effect is sedation in contrast to the marked excitement in some cases with the barbiturates. Some investigators even advise continuous special nurses with their recommended barbiturate technique.

3. The effect is rapid. Sedation is noted in most cases from within eight to ten minutes. This is comparable to the old ether-in-oil, but is much more rapid than morphine or the barbiturates.

4. It may be administered at any time during the course of labor. It is never too late or too early. Of course, if the presenting part is about to be delivered the usual drop ether or nitrous oxide are the logical measures. But even if the presenting part is low the method is effective. This is in sharp contrast to all the other methods: "No morphine within two or three hours of delivery." "Barbiturates should not be given late." Ether-in-oil, of course, could not be retained during the very last stages of labor. And yet, this (when the head is low) is the time that relief is needed. The pains are severe but it is too early for the complete anesthesia. This is especially true in the primipara.

5. Labor is apparently not prolonged. There are several possible explanations for this. The problem of a sudden large dose of ether is avoided. Just enough solution is given to produce the desired effect—slight sedation—preventing profound anesthesia with muscular relaxation. Also, the dilatation of the anal sphincter apparently acts as a stimulus to uterine contractions.

6. Rectal examinations may be made at any time. This cannot be done when the usual bulk oil solutions are given by rectum, or if the barbiturates are given by this route.

7. The nursing care is simplified. No detailed, constant, special nurse attention is required. The patients are not excited and do not need continuous supervision. The ether-in-oil is often expelled, requiring change of linen. If sufficient number of enemata are given there is nothing to be expelled in the vapor method.

8. The amount of ether required at the time of delivery is markedly reduced. This, of course, is due to the obvious fact that partial sedation is present from the ether already administered.

9. The child does not usually present a problem in resuscitation.

10. The number of drugs used are reduced to a minimum: Only two—ether and paraldehyde—including the terminal anesthesia. Some investigators make quite a point of this, criticizing certain methods because of the multiplicity of agents used in one plan.

Technique: 1. Enemata are given until the solution returns clear. Complete elimination is an important part in the success of this method. Soda solutions are preferable.

2. The drugs used are: ether—ounces two and one-half, paraldehyde—drams two.

3. This solution is administered from a bottle by one of two techniques. The simpler and easier method is to connect the bottle directly to a large rectal tube. (A chloroform bottle and a number 32 rectal tube, or a large mushroom catheter are satisfactory). The rectal tube, with a generous supply of vaseline to minimize the burning sensation, is inserted high into the bowel lumen past the presenting part. The solution bottle is then placed between two hot water bottles or in a vessel of hot water. Care should be taken to make sure that the bottle is erect. The second method has a tubing connection from the rectal tube extending over the side of the bed so that the container bottle may be placed in a heating vessel which cannot be upset nor annoy the patient.

4. The ether-paraldehyde solution is then heated and the vapor goes into the lower bowel where it is absorbed. The odor of the drugs can be detected on the patient's breath within a short time.

5. The ether-paraldehyde solution is kept warm as long as the patient needs the anesthetic. When she becomes more comfortable the bottle may be allowed to cool and be clamped off until further need is noted.

6. The procedure may be repeated when needed, usually not under four or five hours.

7. It is advisable to give additional enemata if fecal material is seen.

Professional Building

TUBERCULOSIS ABSTRACTS

Furnished through the courtesy of the West Virginia Tuberculosis Association

"The evidence indicates that in this country the balance is already against the survival of the tubercle bacillus; and we may reasonably expect that the disease will eventually be eradicated. There can be no certainty of this result; but it is an expectation sufficiently well grounded to justify shaping our tuberculosis control program toward this definite end."—Wade H. Frost, M. D.

The Doctor and Tuberculosis of the Future: The foregoing statement by one of our leading epidemiologists merits careful consideration by everyone interested in the tuberculosis problem and it should be of particular interest to practicing physicians, the group which must play the most important part.

The impression that practically all tuberculosis work has been withdrawn from the general practitioners is far from the truth as evidenced by the fact that "of the approximately 650,000 active cases of tuberculosis in the United States today only about one-seventh are in hospitals and sanatoria and most of these have passed through the hands of the private practitioner." The rest "are for the most part under the care of general practitioners or specialists."

The private practitioner is then "the keystone of the arch" and the rôle which he will play in a program which aims at the eradication of tuberculosis is discussed by Dr. H. E. Kleinschmidt in a paper which should be read by every member of the medical profession.

"Tuberculosis work of the immediate future," says Dr. Kleinschmidt, "throws out a challenge for a finer, more complete service than we have been

able to render in the past. It is twofold—to perfect the practices with which we are already familiar, and to add services not commonly offered by the family doctor in the past."

Early Diagnosis: "To what extent can the practicing physician increase his batting average of discovering the disease in its incipiency? About five out of every six patients in our sanatoria are classified on admission as advanced cases of tuberculosis and this ratio has not improved to any appreciable extent for the past ten years."

"To find early tuberculosis it is necessary to have it in mind and search diligently for it." More prompt use of the x-ray and prompt consultation with the specialist will help and today these services are available, even for those unable to pay, in nearly every community. The tuberculin test should be routinely used by every general practitioner.

Contact Follow-Up: "The second opportunity which the general practitioner can enlarge to his own benefit as well as the patient's is more thorough contact follow-up work. Tuberculosis is a household epidemic. The responsibility of the family doctor is not discharged until he is sure of the physical status of every member of the family."

Management of the Patient: "The general management of the tuberculosis patient in the hands of the general practitioner can be vastly improved."

"Williams and Hill who studied the experiences of 1,499 tuberculosis patients handled by private practitioners found that 42 per cent were not instructed how to dispose of their sputum, 47 per cent were not told to use their own dishes, 37 per cent were not cautioned to sleep alone, and only 17 per cent were given printed or written instructions. Certainly that record has been bettered in the past few years but there is still room for improvement."

Determining Date of Infection: "Our vista of the future of tuberculosis includes a virgin field begging to be occupied by the up-to-date practitioner. It has to do with the anticipation of tuberculosis, not merely its detection when patients come to him on their own initiative. Tuberculin test surveys have led the way and have prepared the people for the acceptance of a service not yet commonly offered by the family advisor. Why should not the family doctor provide this form of insurance against tuberculosis? Years ago Sir Robert Philip advocated the tuberculin testing of all children annually from shortly after birth until the first positive reaction appears. Determining not only the fact but also the approximate date of infection, he said, would help enormously in locating the source of infection. So long as the child reacts negatively all is well. When the test for the first time becomes positive the doctor knows that the infection has taken place in the past twelve months. This narrows his search down to the events of the immediate past and increases the possibility of putting his finger on the source. Moreover, knowledge of a recent infection puts the doctor on his guard, for while it is true that the first infection usually heals spontaneously it does seem wise to shield the child during the period of activity of the primary lesion and to give him every favorable chance. Somehow, Sir Robert's idea has never caught on. He was perhaps ahead of his time. The time seems ripe now, however, to try out the scheme seriously. With a little encouraging publicity on the part of health educators it should not be difficult to create a demand among intelligent parents for this kind of medical service. Such a plan fits in admirably with the modern trend of pediatric practice which emphasizes health guidance of the growing child."

Care of Children: "There is also the question of the care of children found to be positive reactors and those with röentgenograph shadows of primary lesions.

"All children with benign lesions should be placed under observation until they have safely weathered the stormy period of adolescence. Given adequate social facilities there is no medical need of the infected or contact child that cannot be met by the private doctor."

Team Work: "The several fields here briefly sketched will be properly occupied by the doctor only if he is willing to gear his practice into the present public health and social machinery. Finding new cases, detecting early infection, instructing the patient; these are among his many responsibilities. But he is not a teacher, social worker, nor administrator. His office is, however, a clearing house in touch with all the agencies coming in contact with the problems of the tuberculous. The aid of the specialist, the help offered by the sanatorium, the diagnostic clinic, the tuberculosis association and the facilities of welfare agencies are his for the asking. Coöperation with the health department is particularly necessary."

The Doctor and Tuberculosis of the Future, H. E. Kleinschmidt, M.D., Minnesota Medicine, April, 1937.

PRESIDENT'S PAGE

Never before in the history of our profession has it been so urgently necessary for the individual physician to unite with his fellow practitioners in an organization devoted to their mutual welfare. In the past, county and state medical conventions were held primarily for the purpose of providing an opportunity for their members to exchange scientific thought and experiences. It has now become necessary to hold such conventions in order to discuss economic problems and devise ways and means not only for providing proper medical care for the indigent sick, but also for defending and protecting the status of the doctor himself as a free and independent medical practitioner.

Had it not been for the protection of organized medicine, by now the individual doctor would have been engulfed by the flood of socializing influences of our present administration. He would have been transformed into a petty official, the hireling of one of the social agencies of the government. So far, organized medicine has been able to ward off that catastrophe but it may become even more acute in the near future. In organized medicine lies our protection. As individuals we are helpless. As members of our county and state organizations, component units in the great American Medical Association, we can be heard and shall be heeded.

There are in our own state 1,792 men licensed to practice medicine, 1,223 of whom are members of our West Virginia State Medical Association. It really should be unnecessary to stress the obligation of every doctor to be a member of his county and state medical society and a Fellow of the American Medical Association. If the events of the past four years have not opened the eyes of these 569 fellow-practitioners in our state who are not yet members of our state society, what can words do? They cannot plead ignorance of present conditions as an excuse. If it is indifference, let us implore them once more to wake and act before it is too late. Our plight is acute. Our economic problems are the same as theirs, and their problems are our own. Let them realize that they are practicing medicine under the protection of organized medicine without acknowledging their obligation by active support of that organization. In all fairness, they should be members of the organization which considers our interests first and foremost and fights for all of us.

Membership in other medical societies is no excuse for failure to join the county and state associations. Our state society is the business representative of our profession. More than ever we must have proper representation to fight for our economic interests. If a doctor wishes to join other medical societies let him do so—all well and good. There are dozens of scientific organizations in the United States. Some of them perform a definite and necessary function. Some appear to be unnecessary on account of reduplication and overlapping of activities. Still others appear to have been promoted for the dual purpose of exalting the doctor's ego and repaying the organizers very generously for their efforts. But there is only one organization which fights our economic battles. The International College of Surgeons, in Geneva, Switzerland, does not and can not take up the economic plight of a fellow-practitioner in Pocahontas County. Every man in the practice of legitimate medicine in our state should be a member of the West Virginia Medical Association.

President.

THE WEST VIRGINIA MEDICAL JOURNAL

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A YEAR OF OBSTETRIC PROGRESS

Those of us who are particularly interested in the work of this special branch of medical service in West Virginia, have much reason to feel encouraged by the accomplishments of the past year.

It has been a source of pleasure to note that the membership of the West Virginia Obstetrical and Gynecological Society has been materially increased. At the second annual meeting the attendance was almost doubled. The program was of diversified interest and the discussions much more spiritedly engaged in. Very encouraging signs indeed!

In the special Obstetric and Gynecologic number of the JOURNAL last year it was explained that postgraduate lectures were planned by the Division of Maternal and Child Hygiene of the State Health Department, coöperating with the Committee on Maternal Welfare of the State Medical Association. During July and August these courses were given at various strategic points throughout the state. As a whole they were well attended and for a first effort much seems to have been accomplished.

The publication committee hopes that the scientific pages of this number will stimulate an increased interest in obstetrics and that during the coming year more determined efforts will be made to improve the maternity service of our state.

Much progress has been made this past year. There is much yet to be accomplished. This is particularly to be stressed in the matter of educating the laity to expect better maternity service and that only by their coöperation can the hoped for goal be achieved.

We have begun. Progress has been made. We are encouraged. Let us energetically continue the good work.

A DOSE OF AGAR

Mr. Herbert Agar is the author of a column, "Time and Tide", which has a modest following in several of the state's newspapers. He recently wrote on the subject "Consumers' Co-Ops in Medicine." Mr. Agar, like many of his theory-juggling confreres, is just pink enough for the parlor but not quite red enough for the soap box. He is pink enough to say that voluntary health insurance "is a simple and economically sound application of the principles of consumer's cooperation"; but not quite red enough to point out "why."

While we are not particularly excited about Mr. Agar's column, we do wish to comment upon his remarks about the American Medical Association. The gist of his argument was that the American Medical Association has never offered any sound professional argument against health insurance, but has, instead "merely gone on record against such a plan, saying that it leads toward Socialism, Communism and revolution." "That statement," writes Mr. Agar, "is plainly idiotic." At the close of his article he again tackles the A.M.A. and concludes with "Nothing will be accomplished by talking vaguely about Communism and revolution."

Let us get right to Mr. Agar's point; namely, that the American Medical Association has never offered any sound professional argument against health insurance * * * instead it has talked vaguely about Communism and revolution. We quote the following A.M.A. releases, all of which are devoted exclusively to sound professional argument

against health insurance. Here, Mr. Agar, are just a few:

"Where Actuarial Figures Fail" by Dr. Olin West, Secretary and General Manager of the American Medical Association before the Minnesota State Medical Association on December 18, 1932.

"A Critical Analysis of Sickness Insurance," a 91 page pamphlet published in 1934 by the A.M.A. Bureau of Medical Economics.

"Sickness Insurance Not the Remedy," 14 pages of sound professional argument against sickness insurance published in the June, 1934 Bulletin of the American Medical Association.

"Sickness Insurance Catechism," a comprehensive answer to 19 questions on health insurance, published by the A.M.A. Bureau of Medical Economics two years ago.

"Health Security and the American Public," debated between Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, and Dr. Michael M. Davis, Director of the Julius Rosenwald Medical Service Fund of Chicago, in connection with "America's Town Meeting of the Air", Station WJZ, on March 5, 1936.

Now, Mr. Agar, there's just too many of these references to quote, but we hope the above will give you an idea of what we are driving at. You made a very dogmatic statement that nothing of this sort was in existence, but here it is just the same, references and all, so that you can easily look the material up.

In defense of Mr. Agar, we do not believe his misstatement was malicious or deliberate. Our feeling toward a fellow journalist is much too kindly to accuse him of such cowardice. We shall give Mr. Agar the benefit of the doubt by granting that he was just plain ignorant.

PHYSICAL REHABILITATION

Because of numerous complaints received by the Association's Public Assistance Advisory Committee relative to the method of assigning adult physical rehabilitation cases, the committee instituted a variation at its meeting on October 12, to allow rehabilitation patients free choice of doctor, within a limited field. Heretofore, all rehabilitation cases have been assigned in alphabetical rotation among the qualified rehabilitation surgeons.

While the rotation system brings about an equitable distribution of cases, it does not make allowance for the principle of free choice of physician. Complainants have pointed out that their patients of year's standing have been assigned to other doctors, to the discomfort of both the patients and the physicians. Doctor "A" wrote the committee that after taking care of a hernia case for several weeks, helping the patient secure needed hospitalization, and assisting the patient in securing rehabilitation, the patient was assigned to Doctor "B" by the Rehabilitation Department. This complaint is typical of all those that have been received by the committee.

After consulting with Dr. W. S. Fulton, Association President, and with public assistance officials, the committee varied the assignment plan so that rehabilitation patients previously attended by a qualified surgeon will, in the future, be assigned back to that surgeon. Patients not previously attended will continue to be rotated in alphabetical order among the qualified surgeons. The committee feels that this variation in the method of assigning cases will solve the present problem and will meet with the popular approval of both patients and doctors.

DEMENTIA PRAECOX

It is a common observation by psychiatrists that the epileptoid and the schizophrenic states do not exist in the same person. Acting on the idea that epilepsy and schizophrenia are antagonistic to each other, Meduna conceived a method of treatment by which the dementia praecox individual is converted into an artificial epileptic. This treatment in his hands has proved encouraging. It was introduced into America at the Buffalo City Hos-

pital where Friedman and others have carried out a series of cases with favorable results.

Recently the Huntington State Hospital staff have investigated the methods and results and have instituted this treatment at that institution. Camphor is injected intramuscularly twice daily in increasing doses until the patient has a convulsion. A ten per cent solution of metrazol is then employed intravenously. The convulsion comes on within a few days after camphor is started. Camphor convulsions are rather severe and the patient must be watched carefully for three hours following each injection. The metrazol convulsion averages two minutes in duration and follows immediately after injection. A series of twenty convulsions are induced. The patient then rests ten days and a second series of twenty convulsions is carried out.

The metrazol injections are given every second day. In the meantime the patient is allowed to be up on the ward. Improvement is usually noted early in the treatment. Complete blood chemistry is done before treatment is started and at intervals during the therapy. An alkaline ash diet is given and the patient is alkalinized by administration of sodium bicarbonate. The fluid intake is held to a high level.

This form of therapy has the advantage in that it is applicable to any one of the types of schizophrenia and it appears to be free from grave dangers and serious after effects. To date no patient has developed convulsions other than those deliberately induced by use of the drugs. The camphor-metrazol treatment appears to hold promise of good results in this difficult field of therapy.

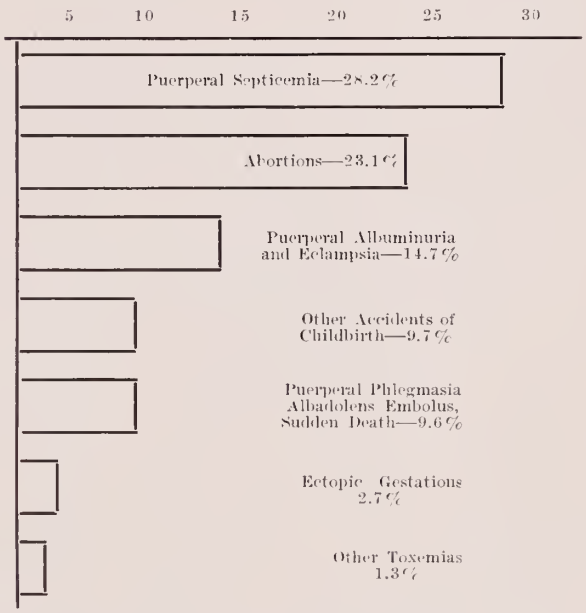
MATERNAL AND INFANT CARE

Mrs. Tony Capucci is going to have a baby. She has had six children. Her labors are short and snappy and she is out of bed, hanging up clothes, in three days after their birth. Why worry about Mrs. Tony Capucci? She has healthy kids and she never has any trouble.

Another woman is going to have a baby. Let us imagine she is Mrs. West Virginia, representing all the women pregnant at the present time in our state. Before Mrs. West Virginia gets through with this pregnancy, labor and puerperium, her chances are over five chances in one thousand that she will die. If she gives birth to a living baby, over sixty chances in one thousand, it will not reach one year of age until death overtakes it.

DISTRIBUTION OF MATERNAL DEATHS AS TO CAUSE IN WEST VIRGINIA FOR THE YEAR 1935

(From special report of Department of Commerce, Bureau of Census, Vol. 3, No. 4.)



Recently the maternal and infant death rates were studied as to counties in West Virginia for the past five years. The average yearly death rates in the five counties with highest rates are listed below:

Maternal Death Rates

Morgan County	9.8
Ohio County	8.8
Wetzel County	8.2
Fayette County	7.3
Cabell County	7.2

Infant Death Rates

Pocahontas County	88.7
Webster County	80.4
Morgan County	79.9

Kanawha County.....79.9
Cabell County.....79.6

Better and more maternal and infant care should change the picture. Each pregnant woman should not be regarded as Mrs. Tony Capucci but as Mrs. West Virginia with the risks she faces for herself and infant.

The State Health Department and its various agencies are always ready to cooperate with the physicians of this state is lowering these high maternal and infant death rates. This past summer, its cooperation with the West Virginia Medical Association in presenting the postgraduate conferences evidenced this fact. After all, the final responsibility for the welfare of these infants and mothers rests in the hands of the practicing physician. The State Health Department is only an agency to supplement and not to supplant this care.

COUNTY SOCIETY NEWS

CABELL COUNTY

The regular monthly meeting of the Cabell County Medical Society was held at the Hotel Pritchard, Huntington, on Thursday evening, October 14, at 8:30 o'clock. The guest speaker of the evening was Dr. R. A. Ransey, Columbus, Ohio, who lectured on "The Diagnostic Criteria of Hyperthyroidism and Hypethyroidism."

Following the scientific meeting, the election of officers was held and Dr. W. C. Swann, Huntington, was elected president for the coming year. Dr. Swann will succeed Dr. R. M. Wylie.

CHAUNCEY B. WRIGHT, *Secretary.*

KANAWHA COUNTY

The October meeting of the Kanawha Medical Society was held in the Daniel Boone Hotel, Charleston, on the evening of the twelfth at 8:15 p. m.

The scientific program was presented by Doctors A. Spates Brady, Jr., Hugh A. Bailey and U. L. Peterson, all of Charleston. The doctors prepared and presented a Symposium on Peptic Ulcer. The medical aspect was treated by Dr. Brady; the surgical aspect by Dr. Bailey; and x-ray by Dr. Peterson. In a concise and interesting manner the symposium was presented to the audience and was followed by much discussion.

During the business session the revised Constitution and By-Laws proposed at the last regular meeting came up for action. Considerable time was devoted to discussing revisions and amendments.

Adjournment was called at 11:30 p. m.

CLAUDE B. SMITH, *Secretary.*

LOGAN COUNTY

The Logan County Medical Society held its regular meeting on October 12, 1937, at the Aracoma Hotel. The guest speakers were Drs. Ivan Harwood and Francis Scott of Huntington, who presented eight cases with histories and x-rays that were worked up from both the urological and orthopedic standpoints. These cases were all of interest as they clearly showed that the specialties are overlapped and can not always be sent to the specialist that cares for their particular ailment.

J. L. PATTERSON, *Secretary.*

MERCER COUNTY

The Mercer County Medical Society met in the Directors' Room in the Municipal Building, Bluefield, at 8:00 p. m., September 23, 1937. The attendance was fair.

Dr. Charles T. St. Clair, Jr., presented a paper on "Intubation and Tracheotomy in the Treatment of Laryngeal Diphtheria." He had a series of 69 cases which ranged in ages from seven months to 50 years and covering a three and one-half year period. His operative mortality was 7.2 per cent. The care of these 69 cases tended to be conservative in that the number of intubations was 33, whereas the number of tracheotomies was six. Ninety per cent of the reported cases were children or those working as day laborers in coal mines. These people have little funds in reserve for such emergencies as hospital care and nursing. Following intubation, such patients do not need a private nurse and one is never ordered unless requested, the nurses on floor duty being able to take care of them. The average stay in the hospital was 5.4 days. Discussion of this paper was opened by Dr. J. R. Vermillion, of Princeton.

Dr. Altamont Bracey, of Welch, presented a paper and lantern slides on the ambulatory treatment of fracture of the shaft of the femur with Roger Anderson Femur Splint. He had 11 cases.

The results obtained from the treatment were very good. It has the advantage of getting patients out of bed early, and therefore reducing their hospital stay. Six of these fractures are now back at their usual occupation. Their average disability was about 291 days. The paper was discussed by Doctors Scott, Hosmer, and Vass.

Dr. Uriah Vermillion, of Athens, showed an unusual specimen of a fetus which had one face, one head, neck, and body. There were four arms, legs, and ears.

Doctors Frederick C. Goodall, of Lamar, W. Va., and Thomas U. Vermillion, of Matoaka, W. Va., were elected to membership in the society.

Mr. John Mastin, Director of Public Assistance, of Mercer County, discussed medical participation in Public Assistance cases. At the present time there are about 800 cases on relief. The maximum amount received by any one case is $30.00 per month. There are 56 active tubercular cases on relief. Since there is no room in our tubercular institutions for the isolation of these patients, a movement is under way to get them transferred to the County Home Cabins. During the month of August, $350 was spent for medical assistance. At present Public Assistance in this county amounts to $15,000 per month. The overhead amounts to $2,300.00 per month.

O. G. KING, *Secretary.*

MONONGALIA COUNTY

The regular monthly meeting of the Monongalia County Medical Society was held in the Marine Room, Hotel Morgan, Morgantown, Tuesday evening, October 5. Dinner was served at 6:00 p. m.

The scientific section was opened by Dr. J. E. Andes, of the West Virginia University School of Medicine. Dr. Andes' subject was "Diagnosis and Treatment of Uterine Bleeding." This presentation was unusually interesting and evoked general discussion on the part of the members.

Business of the society was discussed and adjournment followed.

G. R. MAXWELL, *Secretary.*

OHIO COUNTY

A scientific session of the Ohio County Medical Society was held in the Solarium of the Ohio Valley General Hospital, Wheeling, on Friday, October 8 at 8:30 p. m.

The meeting was officially opened by President W. M. Sheppe, who introduced Dr. J. Torrance Rugh of Philadelphia. Dr. Rugh is Professor of Orthopedic Surgery at Jefferson Medical College. His subject was "Some Problems of the Lower Back." This topic was of much interest to the meeting and was discussed by Doctors H. G. Weiler and J. O. Rankin.

W. C. D. MCCUSKEY, *Secretary.*

PARKERSBURG ACADEMY

The Academy convened at 8:30 p. m. at the Camden-Clark Memorial Hospital on October 7. President A. R. Sidell opened the proceedings. Twenty-two members were present.

The speaker of the evening, Dr. Allen A. Tombaugh of Rocky Glen Sanatorium, McConnellsville, Ohio, was presented by Dr. Sidell. Dr. Tombaugh's subject was "Early Diagnosis of Pulmonary Tuberculosis." Discussion of this paper was carried on by Doctors Wade, Goff, Boice and Wise.

During the business session the application of Doctor James W. Calvert, St. Marys, formerly of Lamar, Mercer County, was presented and accepted for membership. The application was attended by a transfer card from the Mercer Society.

BERLIN B. NICHOLSON, *Secretary.*

RALEIGH COUNTY

The Medical Society met on Thursday evening, September 16 at 7:30 p. m. at the Beckley Hotel, Beckley. Dr. Russell Kessel of Charleston presented a paper on "Pelvic Infections." This topic was widely discussed by the attending twenty-five members.

The meeting was adjourned following a short business session.

L. M. HALLORAN, *Secretary.*

GENERAL NEWS

WHITE SULPHUR DATES SET

The dates for the seventy-first annual meeting of the West Virginia State Medical Association to be held at White Sulphur Springs next year will be July 11, 12 and 13, 1938. These dates were selected by the Committee on Scientific Work, meeting with President-elect Dr. C. W. Waddell, at its first session in Clarksburg on October 13.

The July dates were agreed upon because of various conflicts with other conventions during the month of May. Because of a heavy spring convention schedule at the Greenbrier Hotel at White Sulphur, it was found that the only available dates fell in late May and early June. The committee felt that this would conflict with graduating exercises at the larger teaching centers and make it extremely difficult to provide a properly balanced program of out-of-state essayists. The committee also felt that the convention, in late May or early June, would be too close to the annual meeting of the American Medical Association in San Francisco on June 13.

In discussing the July convention date, it was pointed out by committee members that July, while not ordinarily suitable as a convention month, would be suitable at White Sulphur Springs. The committee felt that many Association members would welcome the opportunity to escape midsummer heat for a few days at the Greenbrier resort.

The dates of July 11, 12 and 13 fall on Monday, Tuesday and Wednesday. The convention schedule worked out by the committee calls for sectional meetings on Monday morning and afternoon, general sessions on Tuesday and Wednesday, and the convention banquet and ball on Wednesday evening. The President's Annual Address will be delivered on Tuesday evening.

The Sections on Internal Medicine and Pediatrics will meet on Monday morning. The Section on Surgery and the Eye, Ear, Nose and Throat Section will meet on Monday afternoon. Meetings of the House of Delegates will be held on both Monday and Tuesday evenings.

Special societies meeting conjointly with the Association include the West Virginia Heart Association, the West Virginia Society of Industrial Physicians and Surgeons, and the West Virginia Obstetrical and Gynecological Society. The Heart group will meet on Monday afternoon, July 11, and the Industrial and Obstetrical societies will meet on Thursday morning, July 14.

Program assignments for the general sessions of the Association have already been made and the committee members have already begun work on these assignments. The committee and the sectional officers hope to complete their work by the first of the year.

Those attending the meeting at Clarksburg on October 13, were Dr. E. B. Wright, Clarksburg, chairman and Dr. J. S. Klumpp, Huntington, of the Scientific Committee; Dr. C. W. Waddell, President-elect, Dr. W. R. Goff, Parkersburg, and Dr. J. C. Pickett, Morgantown, representing the Surgical Section; Dr. F. R. Whittlesey, Morgantown, representing the Section on Internal Medicine; Dr. T. O. Snaith, Weston, representing the Pediatric Section; Dr. R. J. Condry, Elkins, representing the Heart Association, and Mr. Joe W. Savage, ex-officio secretary.

UROLOGICAL MEETING

The Southeastern Branch Society of the American Urological Association will meet at the Tutwiler Hotel, Birmingham, Alabama, on November 5 and 6, 1937. The society, meeting for the fourth time, is composed of representatives from Alabama, Georgia, Florida, Kentucky, Louisiana, North Carolina, South Carolina, Mississippi and Tennessee.

Among the speakers will be Dr. G. J. Thompson, Rochester, Minnesota; Dr. Edwin P. Alyea of Duke University; Dr. J. A. C. Colston, Baltimore; Dr. Nelse F. Ockerblad, Kansas City; Dr. Clyde L. Deming, New Haven; Dr. Owlsey Grant, Louisville, and Dr. James J. Ravenel, Charleston, South Carolina.

MEDICAL AWARD

The Mississippi Valley Medical Society offers a cash prize of $100.00, a gold medal and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. Entrants must be ethical licensed physicians, residents of the United States and graduates of approved medical schools. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society (September 28, 29, 30, 1938), the Society reserving the exclusive right to first publish the essay in its official publication—the Radiologic Review and Mississippi Valley Medical Journal. All contributions shall not exceed 5000 words, be typewritten in English in manuscript form, submitted in five copies, and must be received not later than May 15, 1938. Further details may be secured from Harold Swanberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Ill.

MID-YEAR HEART MEETING

The first mid-year meeting of the West Virginia Heart Association will be held in Charleston on November 22, 1938, it has just been announced

by Dr. W. C. Stewart, president. Sessions will be held at the Daniel Boone Hotel, opening at 1:30 o'clock in the afternoon and continuing through the dinner hour.

The guest speaker for the mid-year meeting will be Dr. James Edwin Wood, cardiologist at the University of Virginia Hospital. There will be three other state men on the program. The subject matter under discussion will be in the nature of a symposium on "Rheumatic Fever and Rheumatic Heart Disease."

The meeting will be conducted on an informal basis to give each physician present an opportunity to present personal problems encountered in every day practice.

The meeting is not limited to Heart Association members but will be open to all members of the Association in good standing. There will be no registration fee.

HOSPITAL SESSION

Electing Dr. R. O. Rogers, Bluefield, as president, and selecting Charleston as the 1938 convention city, the Hospital Association of West Virginia held its twelfth annual meeting at Wheeling, October 7 and 8.

Other officers elected were:

Dr. J. E. Offner, Weston, first vice president; Irene Tobin, R. N., Logan, re-elected second vice president; T. Harvey McMillan, Charleston, re-elected treasurer; J. Stanley Turk, Wheeling, re-elected as a member of the Board of Trustees, together with Sister M. Zita, Parkersburg, and B. B. Dickson, Welch, each of whom will serve one-year terms.

A. E. Hardgrove, Chicago, assistant secretary of the American Hospital Association, represented the national association at the state meeting, and in an address at the annual convention banquet outlined the relationship between state associations and the American Hospital Association, and told of activities of the latter organization, stressing particularly its negotiations with Congress and other federal departments and agencies.

Dr. W. S. Fulton, Wheeling, president of the West Virginia State Medical Association, also spoke at the annual banquet meeting and made a plea for close coöperation between hospitals and the medical profession, emphasizing particularly the need of such a close unity to combat threats of socialized medicine through governmental regulation.

The afternoon sessions of October 7 were given over to two sectional meetings. Group hospitalization was discussed at a three-hour session in the Ohio Valley General Hospital, the feature of which was a talk on group hospital care plans from the medical man's point of view by Dr. J. Ross Hunter, Charleston. Dr. Hunter pointed out objections to be found in such plans by the medical practitioner, as well as the basic advantages which accrue to doctors where such plans are in operation.

A nursing section of the hospital association was organized at a special meeting of the nursing group held at the Wheeling Hospital, with Miss Frances Wales, Wheeling, elected as chairman of the section.

The evening session of October 7 was featured by the annual address of the association president. Charles C. Warner, Charleston, retiring president, was unable to attend the Wheeling meeting, but his message was read to the convention by the secretary. Mr. Warner emphasized the necessity of community development of group hospitalization plans and pointed out the manifold advantages to be gained by the patients, the hospitals and the medical profession under the pre-payment plans which are becoming popular throughout the state and nation.

Sessions of October 8 were devoted to papers and discussions of hospital records by Miss Margaret Krebs, record librarian at the Ohio Valley General Hospital, Wheeling; "Hospitals and Public Welfare Administration," by Dr. Donald L. Butterfield, medical advisor to the State Department of Public Assistance; "Medical and Institutional Phases of Workmen's Compensation," by Dr. G. C. Schoolfield, medical examiner for the State Compensation Commissioner; "The Automobile Accident Problem as it Relates to Hospitals," by Dr. R. H. Dunn, South Charleston; and "Employee Welfare and Personnel Management in Hospitals," by B. B. Dickson, of the Stevens Clinic, Welch.

OBSTETRICAL PILGRIMAGE

Tentative plans are being made for the annual Obstetrical Pilgrimage to Cleveland, sometime after the first of the year, to attend a three-day clinical session in obstetrics and gynecology.

Drs. Arthur H. Bill, A. J. Skell, and Thomas E. Jones, have agreed to furnish an all-day clinic, provided as many as fifteen physicians will be present. It is suggested that all physicians interested in such a trip notify Dr. E. J. Humphrey, P. O. Box 317, Huntington, West Virginia, stating what month would be most convenient for them to attend.

TWENTY-FIVE YEARS AGO

(From the Journal of November, 1912)

LETTER FROM THE SECRETARY

Davis, W. Va., Oct. 5th, 1912

To the Editor:

It has occurred to me it might be interesting to know about how our organization stands throughout the state. If we are to do anything further towards increasing our membership we must know where the work should be attempted.

According to the American Medical Association Directory there are in the state 1,639 physicians. Our membership for 1911 was 826. This would leave non-members to the number of 813. Of these I am only able to locate 753, leaving 60 unaccounted for.

In the First Councillor District there are 167 non-members. These are divided among the various counties as follows:

Hancock 7, Brooke 6, Ohio 31, Marshall 26, Wetzel 21, Marion 31, Harrison 42.

In this district there is but one county unorganized, viz: Wetzel. In 1900 Wetzel had a population of 22,800, now probably many more.

In the Second Councillor District there are 121 non-members.

In Monongalia 26, Preston 12, Taylor 3, Barbour 8, Tucker 6, Mineral 5, Grant 5, Hampshire 7, Morgan 9, Berkeley 16, Jefferson 8, Hardy 4, Pendleton 7, Randolph 5.

In this district Pendleton alone has no organization. Pendleton was organized about three or four years ago, but has fallen by the wayside.

In the Third Councillor District there are 134 non-members.

Kanawha 47, Clay 3, Fayette 23, Nicholas 17, Webster 3, Pocahontas 8, Greenbrier 12, Summers 10, Monroe 11. In this district Clay remains unorganized.

The Fourth Councillor District contains 158 non-members.

In Tyler 10, Doddridge 8, Pleasants 6, Ritchie 8, Gilmer 11, Braxton 12, Calhoun 5, Roane 15, Wirt 6, Wood 38, Jackson 21, Lewis 13, Upshur 5. In this district Gilmer and Roane are unorganized.

The Fifth Councillor District contains 173 non-members.

Mason 17, Cabell 40, Putnam 13, Wayne 12, Lincoln 8, Mingo 7, Logan 8, Boone 4, Raleigh 29, Wyoming 5, McDowell 11, Mercer 19. In this district Mason, Putnam, Wayne, Lincoln and Wyoming remain unorganized. Mason has permitted its organization to die but several members joined the Cabell County Society. * * *

A. P. BUTT, *Sec'y.*

* * * *

Original articles in the JOURNAL for this issue were contributed by Dr. W. S. Robertson, Charleston, whose subject was "The Radical Treatment of Acute Gonorrheal Epididymitis"; "Personal Observations in Practice" by Everett Walker, M. D., Tunnelton, and "Suggestions to a Medical Society" by Dr. Jacob Schwinn of Wheeling. The following excerpts are taken from Dr. Walker's article:

"Being a Baptist, it is not necessary to say that I am not opposed to water, but my experience leads me to question the propriety of a cold bath for the purpose of lowering the body temperature alone, and I wish to state that where I have fed the patients liberally the temperature has invariably fallen to so low a degree that this procedure was considered unnecessary." (Taken from the part of his article devoted to care of typhoid patients.)

The following excerpts are taken from the paper by Dr. Schwinn:

"* * * the next and, to my mind, the greatest opportunity for real, practical postgraduate work is at the meetings of a well conducted medical society, a society composed of earnest, enthusiastic, truth-seeking, hard-working physicians * * * not the kind that sits in blissful oblivion during the reading of a paper and after the meeting shakes hands with the essayist, telling him a few nice things privately; not the kind that has to be dragged to the meeting, not the kind that is so overbearingly wise that one cannot teach him anything, but a body of men bent on hard work for the ultimate benefit of their fellow beings, regarding their professional efficiency and integrity among their greatest assets in life.

Here, then, is the place for comparing notes, here is the place for modeling, reforming and changing your views on the most important topics of your science and art; * * * nowhere will you be able to gather more precious gems than from a well conducted discussion of facts by earnest, experienced, observing men, and it behooves, therefore, every member of this society to contribute his or her full share towards making its meeting most profitable and interesting."

OBSTETRIC EXAMINATIONS

The next examinations of the American Board of Obstetrics and Gynecology (written and review of case histories) for Group B candidates will be held in various cities of the United States and Canada on Saturday, November 6, 1937, and Saturday, February 5, 1938. Application for admission to these examinations must be filed on an official application form in the office of the secretary at least sixty days prior to these dates.

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, California, on June 13, and 14, 1938, immediately prior to the meeting of the American Medical Association.

Application for admission to Group A examinations must be on file in the secretary's office before April 1, 1938.

For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, (6), Pa.

AUXILIARY NEWS

CABELL COUNTY

A meeting of the Cabell County Medical Society Auxiliary was held on September 13 at the Langfitt Tea Room. Luncheon was served to thirty members and guests.

Mrs. E. J. Humphrey presided at the business session. The program for the coming year was completed and plans for a rummage sale to be held October 16 were made.

The October meeting is scheduled for Monday, the fourth, at the above location. Tea will be served.

Hostesses for the luncheon were Mrs. E. J. Humphrey, Mrs. I. I. Hirschman, Mrs. William Beckner and Mrs. James R. Bloss.

Mrs. J. R. Bloss, *Secretary*.

FAYETTE COUNTY

Mrs. H. F. Troutman of Page was hostess on Thursday, September 16, to members of the Fayette County Medical Auxiliary at her home. Luncheon was served at one o'clock.

Mrs. Troutman, newly elected president, presided at the business meeting. Reports were heard of the different committee activities. Mrs. G. G. Hodges, program chairman, outlined briefly the program for the coming year. Mrs. E. B. Thompson and Mrs. H. C. Skaggs gave a brief report of the National American Medical Association meeting of the National Auxiliary in Atlantic City.

Mrs. F. S. Harkleroad, retiring president, was presented with a gift in appreciation of her valuable services. Mrs. Harkleroad reported to the Auxiliary on the state meeting of the Auxiliary at Clarksburg last May. At this meeting the Fayette Auxiliary won State Prize in the point system and was presented with a gavel which Mrs. Harkleroad presented to Mrs. Troutman.

Mrs. Ralph Hogshead, chairman of the Hygeia Committee, made a motion to present each high school in the county with a six months' subscription to *Hygeia*. The motion was carried.

Eighteen members of the Auxiliary attended the meeting.

Mrs. G. G. Hodges, *Secretary*.

KANAWHA COUNTY

The 1937-1938 season of the Kanawha Medical Society Auxiliary was opened September 13, with a meeting held at the Charleston Woman's Club. Mrs. J. E. Rucker, president, presided. A large number of members attended the meeting.

Mrs. A. A. Shawkey, delegate to the State Meeting in Clarksburg, gave a report on all Auxiliary sessions held, together with comments on the various programs presented at that time.

The October meeting of the Auxiliary will be a luncheon-meeting in honor of the state and national officers. The regular Tuesday meeting will be set aside for this occasion.

The Kanawha County Medical Society Auxiliary held a luncheon-meeting at the Hotel Ruffner, Monday, October 11, in Charleston, in honor of the National President of the Auxiliary, Mrs. Augustus Kech of Altoona, Pa.; Mrs. V. E. Holcombe of Charleston, National Program Chairman; Mrs. E. H. Starcher, Omar, State Auxiliary President, and Mrs. J. E. Rucker, President of the local Auxiliary. Other guests of honor were Dr. T. M. Barber, member of the Advisory Board to the State Auxiliary; Mr. Joe W. Savage, Executive Secretary of the State Medical Association and the following out-of-town visitors:

Mrs. Roy D. Lattimer, Mrs. O. D. Barker, Mrs. A. D. Knott, Mrs. E. W. Crooks, Mrs. William R. Yeager, all of Parkersburg; Mrs. H. F. Troutman of Page; Mrs. C. G. Merriam of Beard's

Fork; Mrs. F. S. Harkleroad of Harvey; Mrs. H. P. Evans of Keystone; Mrs. Edwin O. Vaughan and Mrs. Henry M. Escue of St. Albans; Mrs. Hobart Fisher and Mrs. L. A. Jarrett of Dunbar; Mrs. Dwight Reeves of McDowell; Mrs. H. E. Beard, Mrs. Edwin J. Humphrey and Mrs. G. A. Ratcliffe of Huntington.

Mrs. H. L. Patterson, Mrs. Mate Farley and Mrs. F. L. Pound of Holden; Mrs. E. B. Thompson, Mrs. Clark Frazier, Mrs. R. A. Updike, Mrs. H. C. Skaggs and Mrs. Ralph Hogshead of Montgomery; Mrs. S. S. Hall and Mrs. H. V. Thomas of Clarksburg; Mrs. E. V. Wise of Everettsville.

A benevolent fund for widows and doctors was urged by Mrs. Kech in her address to the Auxiliary. Plans for membership and organization were also discussed.

Another guest was Mrs. Prentiss Wilson of Washington, D. C., first vice president of the National Auxiliary, who addressed an executive board meeting preceding the luncheon.

Dr. Barber and Mr. Savage both made short talks to the Auxiliary in regard to their plans for the coming year.

A large number of members of the Kanawha Auxiliary were in attendance.

MRS. P. A. HALEY, II, *Secretary*.

LOGAN COUNTY

On September 28 at the home of Mrs. E. H. Starcher, Omar, the first fall meeting of the Logan County Medical Auxiliary was held. Luncheon was served to twenty members. Mrs. D. S. Hess, president, presided.

Following the program which included a review of articles in *Hygeia* by Mrs. B. D. Smith, an outline of the program for the year's work was given by the program chairman, Mrs. J. W. Thornbury. This was discussed and approved.

The next meeting will be held on November 10, 1937.

MRS. J. L. PATTERSON, *Secretary*.

MARION COUNTY

The Auxiliary held its first fall meeting on September 28 at the Hotel Fairmont, Fairmont, W. Va., at which time they attended the meeting of the Medical Society to hear Dr. J. W. Davis' address —"Public Health Program for the County."

Following the joint meeting the Auxiliary held a short business session at which Mrs. Philip Johnson, president, presided. Sixteen members were present. The officers for the 1937-1938 season are as follows:

President, Mrs. Philip Johnson; president-elect, Mrs. John P. Helmick; vice president, Mrs. Charles T. Francis; secretary, Mrs. Chesney M. Ramage; treasurer, Mrs. D. A. Watkins; advisory board, Dr. L. R. Lambert, Dr. K. Y. Swisher.

The October meeting of the Auxiliary will be held at the above mentioned location on the twenty-sixth.

BLAKE LEMLEY RAMAGE, *Secretary*.

PARKERSBURG ACADEMY

A dues tea was given on October 12 at the home of Mrs. A. R. K. Matthews on Plum Street, Parkersburg, by the Woman's Auxiliary of the Parkersburg Academy of Medicine. Assisting the hostess were Mrs. O. D. Barker, president, and Mrs. Ben O. Robinson.

A talk on "Social Diseases" was given by Mrs. A. C. Woofter, program chairman, following the brief business meeting.

Mrs. Frank Harkleroad of Harvey, president-elect of the State Society, was a guest of the Auxiliary. A report of the Auxiliary Board Meeting in Charleston was given by Mrs. Harkleroad.

Mrs. S. M. Prunty, past state president of the Auxiliary, presided at the tea table.

MRS. BEN O. ROBINSON, *Secretary*.

OBITUARY

DR. WILLIAM GASTON

Dr. William Gaston of Clarksburg, 79 years of age, died at his home there on October 19, 1937. He was in active practice more than 50 years and was widely known throughout the central section of the state. He was an honorary member of both the Harrison County and the West Virginia State Medical Associations.

Dr. Gaston was born at Weston on May 18, 1859. He received his early academic education at Fairmont Normal School and later attended the Eclectic Medical Institute, graduating in 1884. He received his West Virginia license the same year and later took extensive postgraduate work at the New York Polyclinic Medical School and Hospital. He located first at Good Hope in Harrison County, later removing to Clarksburg. He was a past president of the Harrison County Society.

FROM OTHER JOURNALS

SOCIALIZED SYSTEMS

The voice of experience knows that of which it speaks. So it will not be amiss for even partial advocates of Senator James Hamilton Lewis' purposed federalization of physicians to hearken to a few eye-witness' statements as to how government control of medicine works out.

From American physicians studying medicine in various European capitals came the direct reports, the eye-witness statements of current results of this compulsory health insurance which so many enemies of American ideals are determined to foist upon the American public. Embodied in an editorial published in the July issue of "*Ars Medici*," official journal of The American Medical Association of Vienna, we consider the editorial worthy of republication here.

The shock experienced when we heard the statement of J. Hamilton Lewis at the A.M.A. in Atlantic City, was not fully ameliorated when we learned that Mr. Lewis was not officially representing the government because we, of the A.M.A. of Vienna, feel that his speech was a trial-balloon.

No one is in a better position to observe and judge socialized medicine than doctors who are studying in Europe—in the very midst of this institution. There are physicians among us who have studied in all parts of the world and have had the opportunity to study socialized medicine from all angles as well as elaborately discuss it with authorities. In Austria nearly 90 per cent of the population are members of official or private sick-assurance companies. As a result private practice has nearly ceased to exist. The compulsory state-insurance alone comprises 2,000,000 persons, that is about one-third of the total population. The efforts of the Austrian physicians to limit state-insurance to a certain higher income group ($160 a month) yielded no result so that a situation remains allowing directors of industrial enterprises, banks, the highest state employees and their families, etc., medical treatment, medicaments, operations, medicinal baths, health resorts, etc., nearly free of charge. The insurances cover a maximum income of $80 monthly regardless of the actual income, so that an income of $400 leaves $320, which is not considered by this method of insurance. Twenty and one-fourth

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per cent of the income of employees and workers is deducted for social insurance, that means an income of nearly $100,000,000 for the company which insures the merchant-manufacturer-professional group alone.

Advantages: Medical help is assured along with medicaments, operations, hospital fees, bandages, apparatus, spectacles, care of teeth, baths, recovery homes, etc., and in case of inability, financial help for a certain time, i. e., the above insured, from the fourth week of illness up to one year, gets a compensation, and if ill longer, he is declared an invalid and receives a pension (Rente), which he of course again loses on getting well.

Disadvantages: A new element has been interposed between patient and physician, the bureaucratism, which destroys the essential factor in the relationship—the confidence. The insureds have the tendency to get as much as possible for the money they regularly pay. A physician has to work not only in the interest of the patient (his essential duty) but also to protect the interests of his company. The sick fund creates unwillingness to work and the old truth, "Cure is accelerated by the will to work and earn again," goes astray. The desire for recovery is undermined by the possibility of getting money without working. In periods of prosperity the number of the disabled decreases and, conversely, during a crisis, it rises enormously. The patient prefers the physician who makes the least difficulties for him in his effort to get support without working, i.e., confirms his disability. This is best realized in an incident which occurred a few years ago in Germany. The government ordered a re-examination when the number of the disabled had risen to 1,250,000; before the examination, 400,000 of these declared themselves able-bodied and other 300,000 of the re-examined were found to be able-bodied. Socialized medicine is fine in prosperous times for a community free of laziness, lying and egotism.

The actually sick person becomes prejudiced for numerous reasons: The sick fund physician is always in a hurry; some of them have to handle 40 to 50 patients in two to three office hours (how many cancers are overlooked!) and visit several dozens in the morning and evening. Payment is bad: about 22 cents for an office consultation, 36 cents for a visit to the patient, of which again after deducting street car fare, only 22 cents remain. Of

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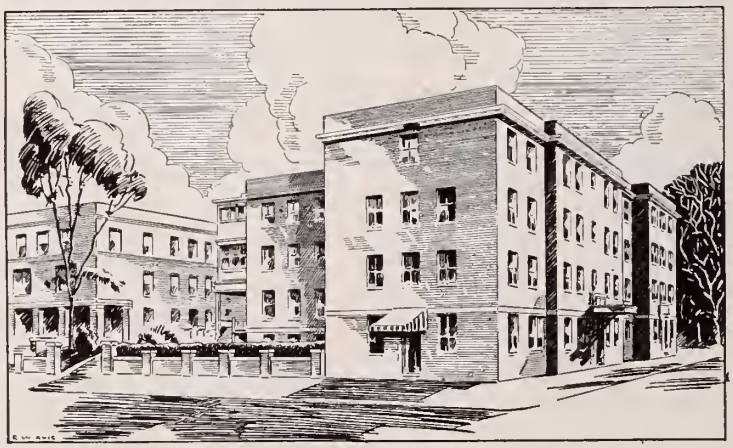

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course this "big business" of a handful of the chosen allows the vast majority a small number of patients monthly, which makes an income of about $100 a month, as the reader can well judge, impossible. Most of them earn only $40 to $60. The sick funds spend for physicians only 12 per cent of the money taken from the insured; that is not more than for their own management; some spend almost as much for the administration, as for the doctors and medicaments. In order to enforce economy and protect themselves from "overhealing" (uberarztung), the sick funds allow only an average of two and one-half consultations, one visit and 46 cents for medicines per case monthly. Therefore, if the physician has had too many simulants and almost-sick cases (Bagatellefälle) in the current month, he has no more paid-time and paid-medicaments, i.e., time and medicaments which the insurance company covers for serious cases. In times of epidemics a five to eight per cent increase in the number of consultations and visits is allowed. All this results in mistrust being the leading feature in the relationship of sick fund—physician—patient. In order to protect themselves from the reproach of overhealing, the physicians are forced to turn over to the hospital even patients who could easily be treated at home, viz.: pneumonia, pleurisy, which in turn implies higher costs, but leaves the doctor room for other patients and medicaments. Visits in excess of the prescribed maximum are not paid for by the sick fund, and the difference between the permitted maximum and the actual expenses for medicaments is then deducted from the physician's bill so that the physician is often forced to pay for the drugs of his serious cases. It is therefore clear that only the simplest and cheapest drugs are prescribed. It is also clear that the patient, knowing these conditions, now mistrusts the physician and the efficacy of the prescription, so that the very important psychological factor in the prescription is lost. It is interesting to note that, owing to the above, the sick fund of the civil employees is enabled to earn money on the very sickness of the insured. Since the doctor is not paid for visits in excess of the prescribed minimum, this company, whose form of insurance requires that every patient pay 10 cents to the fund for a consultation, 16 cents for a visit of the doctor, 30 cents for a specialist's consultation, regardless of how often the insured has had to resort to these in a month, has an income through the deduction of the doctor's fees for plus visits.

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The physician tends to hold the patient as long as possible, within the limit of the maximum allowed, before sending him to a specialist or an institute. This is only possible with the permission of the chief physician of the sick fund, who protects only the interests of his institution and thus grants as little as possible, even if he has to go against the practitioner's advice—he's a policeman rather than a physician. And as pull generally plays an important rôle in every institution it is not surprising to hear from general practitioners that they are unable to bring really needy patients to one of the most luxuriant homes of the sick fund or health resorts. The perennial answer is "all places are occupied."

Almost all sick funds have their own outpatient department for physical therapy, venereal diseases, gynecology, pediatrics, dentistry, etc., where a wholesale treatment is discharged upon the masses of the waiting patients. The corresponding private institute and specialist therefore stand helplessly by with little or nothing to do. Thus we find distress and discontent on the part of the insured and despair on the part of the physicians, whose very existence is endangered. The physicians cannot help themselves, for, in consequence of their pauperization, their social organization is of no value. They have become the Chinese coolies of the sick fund companies, and the most deplorable thing is the relative loss of their reputations and the confidence of their clients. The specialists fare even worse, since they cannot get any patients directly but only on recommendation of the practitioner to the chief physician. A few days ago a renowned Viennese professor told me after his office hours, "*Hodie nemo fuit!*" (no one was here today). I quote only a few figures of the latest schedule to show how poorly they get paid: first consultation, 80 cents; the following ones, 50 cents; appendectomy, $24; treatment of dental root, $1.00; only pathological births are paid for. Not paying for a normal birth induces the physician at times applying such means as forceps, only in order to get a fee. The surgeon only treats minor surgical cases, since major cases are treated free in the hospitals.

Wherever the state goes beyond its natural boundaries, vast disadvantages result for the community.

Dr. E. Liek says in his book, Der Arzt und seine Sendung (The Physician and His Mission), "Nothing has fanned the embitterment and hatred of the working man against the state more than the per-

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nicious system of social insurance. The reason is clear: the state takes away one-fifth of his income, in return for which it promises protection in all accidents of life—illness, invalidity, old-age, unemployment, etc.—and cannot keep its promise. An atmosphere impregnated with the mania for pensions and unwillingness to work prevails in the recovery homes and the whole vast imposing edifice of social insurance."

Dr. Wagner, official leader of the German physicians, recommended to the German physicians at a convention the following method for the treatment of dental roots: Put in an arsenic filling and order the patient to come again in a few days. The changes (pains) which result will induce the patient to have the tooth extracted. In this way the treatment of the root, since the sick funds refuse to pay what it really costs, will be avoided.

In Hungary, the united efforts of the physicians, led by the valiant professors of the medical faculty of Budapest, have protected the country from a hypertrophy of socialized medicine.

The U. S. A. has social need, too; there are 14,000,000 unemployed, and responsible men are seeking a cure by introducing this European social hypertrophy. If American physicians think that this system will be of advantage, they are grossly mistaken. Ninety per cent of the Austrian physicians are unable to make a living under it; 400 (10 per cent) Viennese physicians cannot even afford a telephone and have to resort to charity.

The American people have trusted the politicians with alcohol control, with its resultant failure and graft. To put the care of the sick under the direction of the state or national politics and their medical puppets would certainly not be advantageous to the patient or the doctor. To trust the care of the sick to corporations for profit where the doctor becomes a chain store clerk under the direction of big business would not help the patient.

If the American people could see what American doctors are seeing in Europe, they would certainly join their forces with those of the doctors to prevent State Medicine in America.

Physicians, guard those possibilities which still enable you to make a living and to give your patient careful, honest attention!

Caveant consules ne quid detrimenti capiat res publica!—Illinois Medical Journal.

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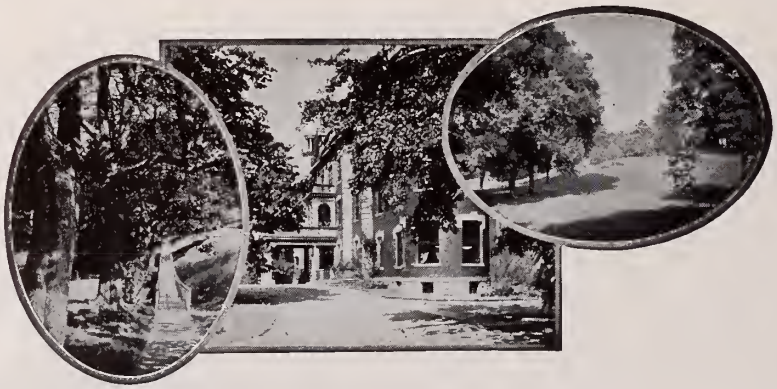

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MEDICAL ETHICS

From time to time lay writers inveigh against medical ethics. One writer has gone so far as to state that physicians' relations with each other are the chief reasons for the stir for socialized medicine. Needless to say, this opinion is absurd. Medicine is the only profession in the history of the world which has been governed continuously by a written code of conduct.

Medical ethics is primarily in the interest of the patient and was written for his protection. Should the ill person, his family or friends, become dissatisfied with the practice of the physician in attendance there is no compulsion to continue with his services. There is nothing in medical ethics to prevent another physician taking over the patient after relations have been severed with the first physician. The code of ethics also provides for the conduct of physicians in consultation, all for the proper care of the patient.

Physicians do not have patients. People sometimes employ the same physician for many years, but they are not his patients until he is summoned to attend them when they are ill or injured, and he may be dismissed at their pleasure—Geo. A. Taylor, M. D., President, Medical Association of Georgia.

BENZEDRINE INHALER

Vollmer (Arch. Otolaryng., 26:91, July, 1937) treated with 'Benzedrine Inhaler' a series of 75 children exhibiting rhinological symptoms due to infection or allergy. The ages varied from one to twelve years.

No difficulty of administration was encountered with either the infants or the older children. Clinical observation made fifteen minutes after use of the inhaler showed marked shrinkage of the nasal mucosa resulting in decongestion of the nasal passages and relief from "stuffiness." All the cases of acute rhinopharyngitis and sinusitis were benefited. Those with otitis media received relief from nasal symptoms although it did not alter the course of the disease. This was also true of two cases of asthma. No results were obtained with two cases of epistaxis.

In no case were any ill effects noted, such as headache, sleeplessness, restlessness or gastrointestinal disturbance. It is thus concluded that 'Benzedrine Inhaler' can be satisfactorily employed with young children for the relief of nasal symptoms due to infectious or allergic edema.

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NEW NAMES FOR OLD TUMORS*

By Lawrence A. Pomeroy, M. D., F. A. C. S.
Director of Tumor Clinic
City Hospital, Cleveland, Ohio

The consideration of new names for old tumors might be thought to be of merely academic interest, possibly leading to more accurate thinking and writing. When the connotation of these new names is earlier and more accurate diagnosis and more five year cures, the matter becomes intensely practical.

Two points of importance should be emphasized. The first point has been stressed by Ewing,[3] who says that cancer is not a single disease but a whole group of diseases. Some members of this group of diseases are so different from some of the other members of the group that the probability of there being a single cause for all types of cancer seems very remote. In this connection it is well to remember that John Hunter taught that syphilis and gonorrhea were manifestations of a single virus and "thereby threw back the scientific knowledge of both diseases for nearly a century."[11]

The second point is the frequency with which a metastasis from a distant and often unsuspected cancer may mimic a primary tumor of the organ under suspicion. In a series of 328 personally performed autopsies in cases of malignant disease Willis,[15] the Australian pathologist, found that metastases had been regarded clinically as primary tumors in 26 (about eight per cent). In the following consideration of some of the organs of the body and a few of their tumors the occurrence of these metastases will be encountered repeatedly.

The Eye: The classical malignant tumors of the eye are glioma of the retina in children and sarcoma of the choroid in adults.

Both of these tumors have long been treated by enucleation or by evisceration of the orbit. Martin[10] and Reese have recently reported favorable results, but as yet no five year cures, by x-irradiation in a series of six cases of bilateral glioma of the retina where the usual treatment would have been bilateral enucleation. Their method consists in the use of multiple small portals and a series of 50

*An address given at the Annual Dinner of the Golden Clinic of Davis Memorial Hospital, Elkins, West Virginia, July 14, 1937.

to 75 treatments over a period sometimes as long as twenty months. These results are encouraging and the method might be used in treating tumors in other locations.

It is well to remember that the choroid may be invaded by a metastasis, usually from cancer primary in the breast.

The Breast: "Inflammatory carcinoma" of the breast, as described by Lee[9] and Tannenbaum, is inflammatory in external appearance only. The appearance of the breast is due to a diffuse involvement of the lymphatics of the skin by a cancer involving the breast, there being no characteristic type of tumor. The diagnosis can be confirmed by a small, superficial skin biopsy. The prognosis is poor and operation is of no avail. External irradiation is the only treatment that offers even palliation.

Mouth and Pharynx: In the mouth and pharynx the lympho-epithelioma and the transitional cell carcinoma form an interesting group of tumors, usually quite radiosensitive. The primary tumor, especially if situated in the pyriform sinus, may be so small as to escape detection even after careful search. The metastatic cervical nodes, often forming a bulky tumor, may be the first thing noted by the patient. With these tumors in mind, Willis[15] says, "Endotheliomas and primary lymphosarcomas of the cervical nodes and branchiogenic carcinoma are pathological rarities."

The Salivary Glands: The term "mixed tumor" of the parotid is in common use. "It is probable that the tumor is not a mixed tumor but wholly epithelial in origin and to be referred to as epithelial tumor of salivary gland type."[7] The selection of the proper treatment for these cases, operation or irradiation, calls for nice clinical judgment.

Carcinoma of the lung and choriocarcinoma have furnished metastases to the salivary glands.[15]

The Thyroid Gland: The "malignant adenoma" of Graham is a carcinoma of the thyroid usually arising in a pre-existing adenoma. The morphological character of the cells and tissue is an unreliable basis for the determination of the malignancy of thyroid epithelial tumors adenomatous in character. "The most constant single indication of thyroid epithelial malignancy is invasion of the blood vessels."[6]

Secondary tumors of the thyroid are rare. "The thyroid receives nearly half as much arterial blood as is received by the whole liver, yet the liver is a very frequent site of artery-borne metastatic tumors, while the thyroid is a very infrequent one."[15] It seems that the formation of metastatic tumors does not depend upon the volume of arterial blood reaching an organ.

The Parathyroids: In the parathyroids "the border line between hyperplasia and adenoma is hard to define."[7] These adenomas are of especial interest because of their effect on calcium metabolism and the consequent changes in the bones.

The Lung and Pleura: Probably all cases of primary carcinoma of the lung are bronchiogenic. Karsner[7] says, "No evidence has been presented to show that cancer of the lung originates elsewhere than in the bronchi."

Secondary carcinoma of the lung (via lymphatics) may originate in cancer of the stomach and breast. Secondary carcinoma (via blood vessels) originates most often in cancer of the kidney, chorionepithelioma, cancer of the thyroid, sarcoma of bone and malignant melanoma.

The supposed endothelioma of the pleura is in most, if not all, instances an extension form, or metastasis to the pleura from primary cancer elsewhere.[7]

The Stomach: Lymphosarcoma is often apparently primary in the stomach.

Lymphosarcoma may present the same clinical and x-ray picture as carcinoma of the stomach. Therefore, all patients on whom a diagnosis of gastric carcinoma has been made and on whom no laparotomy and biopsy to confirm the diagnosis have been made, should be given one course of x-ray treatment, at least as a therapeutic test.[1]

The Liver: Cavernoma or cavernous hemangioma is the most common primary tumor of the liver. It is a very frequent incidental finding at autopsy.

If all classes of malignant tumors are considered collectively the liver is the most frequent site of blood-borne metastatic growths. The most common primary tumors are carcinoma of the stomach, large intestine, pancreas, and breast.

The Pancreas: Adenoma of the islet cells of the pancreas with hyperinsulinism has been described by Whipple[14] and Frantz. Some of these adenomas have been successfully excised with relief of the hypoglycemia.

The Adrenals: Cancer of the breast and lung are the most common primary tumors yielding adrenal metastases. Choriocarcinoma, despite its frequently wide dissemination by the blood stream, rarely yields adrenal metastases.[15]

The Ovary: The granulosa cell tumor (from forerunners of granulosa cells) tends to produce overfeminization. It is usually benign but may be malignant.

The Brenner tumor, possibly of the same origin as the granulosa cell tumor, has no endocrine function.

The arrhenoblastoma (testicular tubular adenoma) tends to produce masculinization.

The ovaries are an important site of bulky metastases from latent gastric carcinoma. Some of these are of the Krukenberg type ("fibrosarcoma mucocellulare carcinomatodes").

The Uterus: Carcinoma of the cervix and carcinoma of the fundus of the uterus are two dissimilar tumors. Carcinoma of the cervix should be treated by x-ray and radium, whatever the type of cell. In carcinoma of the fundus the proper combination of surgery and irradiation depends upon the degree of differentiation shown by the cells of the tumor.

Sarcoma botryoides (a mixture of myxomatous tissue, smooth muscle and embryonal striated muscle cells) may originate in the vaginal vault as well as in the cervix in children, and in the fundus in the aged.

The Kidney: Carcinoma (usually the clear cell type of Grawitz) is the most frequent kidney tumor in adults. Hypernephroma is rare. Clear cells plus elements which may arise from the adrenal medulla, such as the ganglioneuroma, the sympathicoblastoma or the phaeochromocytoma are necessary for the diagnosis of hypernephroma.[7] (Karsner)

The congenital mixed tumor (embryonal adenosarcoma, Wilm's tumor) is the most common kidney tumor in children.

The Testis: The tumors formerly called testicular sarcomas are now usually classified as teratomas.

1. Adult teratoma.
2. Seminoma (embryonal carcinoma).
3. Embryonal carcinoma with lymphoid stroma.
4. Embryonal adenocarcinoma.
5. Chorionepithelioma.

As arranged above by Ferguson[5] these tumors run from a low to a high urinary content of prolan like substance as shown by quantitative Aschheim-Zondek tests.

Embryonal carcinoma with lymphoid stroma is very radiosensitive.

Nervous System: The gliomas constitute about half of the brain tumors. About half of the gliomas are astrocytomas. These are slow growing, fairly well encapsulated and may be so situated that total or partial removal is possible. Slightly less than half of the gliomas are glioblastomas (formerly called spongioblastomas). These are the most malignant of gliomas and are responsible for the feeling of pessimism regarding all brain tumors and especially gliomas. The medulloblastomas are few in number but are quite susceptible to x-irradiation. Except in pituitary tumors operation for decompression, and if possible, biopsy are necessary before irradiation.[1]

The most common sources of secondary brain tumor are cancer of the lung, breast and kidney. In all cases of seemingly primary nervous disorders, the possibility of the

existence of a latent pulmonary neoplasm demands serious consideration.

The Bones: The benign giant cell tumor is properly so called. It is usually not a sarcoma, although numerous intermediate grades exist. In this connection it should be remembered that some of the most malignant of the osteogenic sarcomas contain giant cells, somewhat similar to those of the benign giant cell tumor.

The term "osteogenic" as applied to malignant tumors of bone, does not necessarily mean "bone forming," as in some of these tumors there is practically nothing but bone destruction. Kolodny[8] defines "osteogenic" as meaning derived from embryonal forms of cells, which if they matured normally would produce bone. He considers an osteogenic sarcoma to be an osteoblastoma.

Ewing[4] prefers the term angioendothelioma (not endothelial myeloma) for the tumor usually called by his name.

Pulsating tumors of bone (formerly called bone aneurysms) are usually metastases from thyroid or renal carcinoma.

The Joints: The synovioma is a rare malignant tumor arising from the synovial membrane.[2] It may metastasize to the lungs and tends to recur locally after removal. It is radioresistant and amputation is usually advisable.

The Sarcomas: The liposarcoma is grossly invasive while the histological picture shows embryonal types of fat cells. Liposarcoma of bone is highly malignant and may metastasize widely to soft tissues and bones. These bone tumors are usually radiosensitive.[12] (Stewart)

A large percentage of sarcomas of the soft parts are of neurogenic origin and possess the same gross and microscopic features and exhibit the same clinical course as do similar tumors with one or more manifestations of Von Recklinghausen's disease. The fundamental cell of origin of these tumors is the Schwann cell (Stewart and Copeland).[13] These neurogenic sarcomas are usually radioresistant although there are occasional exceptions to this rule.

The Distribution of Metastases: The foregoing consideration of some of the common and a few of the rare tumors, serves to emphasize the great variations in the distribution of their metastases, and brings up the following questions.

1. Why are metastases rare in the skeletal muscles, thyroid and spleen? It is not merely a question of the amount of blood entering the organ for the thyroid receives nearly half as much arterial blood as is received by the whole liver.

2. Why do carcinomas of the breast, prostate, thyroid and kidney so frequently metastasize to bone?

Why does carcinoma of the lung so frequently metastasize to the brain and to the adrenals?

The red bone marrow and the adrenal medulla (with wide sinusoidal capillaries) do not favor the mechanical rest of tumor emboli.

3. Why does carcinoma of the lung not infrequently yield a solitary adrenal metastasis?

Why does renal carcinoma not infrequently yield a solitary skeletal metastasis?

4. Why do many tumor emboli lodge in the lungs and fail to grow there?

A partial answer to these questions may be that the "production of metastatic tumors depends largely on the local qualities of the various host tissues as soils for the growth of the tumor cells."[15]

Summary: 1. Cancer is not a single disease but a whole group of diseases. We should not sit idly by and wait for the rather improbable discovery of a single cause for all types of cancer. We should use our present knowledge to the utmost to bring about early diagnosis, early treatment and more five year cures.

2. In striving for this early diagnosis we must not forget the frequency with which a metastasis from a distant and often unsuspected cancer may mimic a primary tumor of the organ under suspicion.

REFERENCES

1. California Medical Association: Cancer Commission Studies. San Francisco, Stacey. 1936.
2. Coley, W. B.: *Malignant Tumor of Synovial Membrane of Knee Joint*, Ann. Surg. 101: 805, 1936.
3. Ewing. J.: *Causation, Diagnosis and Treatment of Cancer*. Baltimore, Williams & Wilkins. 1931.
4. Ewing. J.: Personal Communication.
5. Ferguson. R. S.: *Quantitative Behavior of Prolan A in Teratoma Testis*, Am. J. Cancer 18: 269, 1933.
6. Graham. A: *Malignant Epithelial Tumors of the Thyroid*. Surg. Gynec. Obst. 39: 781, 1924.
7. Karsner. H. T.: *Human Pathology*, a Text-book, Philadelphia. Lippincott, Ed. 4, 1935.
8. Kolodny. A.: *Bone Sarcoma*. Chicago, Surgical Publishing Co., 1927.
9. Lee, B. J., and Tannenbaum, N. E.: *Inflammatory Carcinoma of the Breast*, Surg. Gynec. Obst. 39: 580, 1924.
10. Martin, H. E., and Reese, A. B.: *Treatment of Retinal Gliomas by the Fractionated or Divided Dose Principle of Roentgen Radiation*, Arch. Ophth. 16: 733, 1936.
11. Power, Sir D'Arcy: *Ipsissima Verba*, John Hunter's Experiment, Brit. J. Surg. 22: 1, 1934.
12. Stewart, F. W.: *Radiosensitivity of Tumors*, Arch. Surg. 27: 979, 1933.
13. Stewart, F. W., and Copeland, M. M.: *Neurogenic Sarcoma*. Am. J. Cancer 15: 1235, 1931.
14. Whipple, A. O., and Frantz, V. K.: *Adenoma of Islet Cells with Hyperinsulinism*, Ann. Surg. 101: 1299, 1935.
15. Willis, R. A.: *The Spread of Tumors in the Human Body*. London, Churchill, 1934.

A PLEA FOR EARLY DIAGNOSIS OF MALIGNANCY*

By J. E. WILSON, M. D.
Clarksburg, W. Va.

I HOPE by my few remarks to start a full discussion of this subject. I am not going to quote to you statistics of others, but I want to call attention again to the work of Doctor Bloodgood and others who campaigned to enlighten the layman of the necessity of early diagnosis of malignancy.

We of the medical profession of course know the necessity, but it appears to me that we too often either overlook the early symptoms, or we do not weigh the value of the statements made by the patient as to his condition. We are told by statements in newspapers and lay journals that cancer ranks second in the causes of death today. No doubt if we had an accurate diagnosis in all cases, it would be higher.

Here in Clarksburg at Saint Mary's Hospital, we have a bed capacity of 125. We have a report from our pathological laboratory which shows that in the past three years from February 15, 1934 to February 15, 1937, there have been 127 proven cases of malignancy operated upon in this institution. This report does not include, of course, outside patient specimens sent into the laboratory. This is not a large group, but when one realizes that we have a small hospital in comparison to those in larger cities, the group then does not appear small. For instance, we admit about 2400 patients per year; therefore, if one compares 42 to 2400 patients one finds that about one out of 57 patients admitted to this institution in the last three years has been diagnosed as malignancy either before or following an operation.

It is not my intention to leave the impression that none of this group was diagnosed previous to operation, because many were; nor does this group cover all the cases of malignancy admitted to the hospital during this period of three years as many were found to be beyond any assistance except relief from pain by drugs, etc. I do want to say that many, and I can safely say a large percentage, of these cases should have been diagnosed long before they were. If one stops to compare the ratio of 1:57 with the population of the United States, it is at once seen that the number of cases of malignancy in this country is alarming. I believe the percentage of malignancy is no higher in Harrison County than in other communities of the United States.

The following is the report of malignant cases reported through the pathological laboratory from February 15, 1934 to February 15, 1937:

*Read before the W. Va. State Medical Association, General Scientific Session, Clarksburg, May 25, 1937.

A. Uterus:	Total	41
1. Cervix	"	20
a. Epidermoid	"	17
b. Adenocarcinoma	"	1
c. Myosarcoma	"	2
2. Fundus	"	21
a. Malignant adenoma	"	11
b. Adenocarcinoma	"	7
c. Sarcoma	"	1
d. Chorioepithelioma	"	2
B. Fallopian Tube:	"	1
1. Adenocarcinoma.		
C. Ovary:	"	4
1. Adenocarcinoma.		
D. Breast:	"	19
1. Scirrhous carcinoma	"	12
2. Adenocarcinoma	"	2
3. Duct carcinoma	"	4
4. Colloid carcinoma	"	1
E. Skin:	"	15
1. Epidermoid	"	12
2. Basal cell	"	3
F. Gastrointestinal tract:	"	22
1. Carcinoma:		
a. Stomach	"	2
b. Descending colon	"	1
c. Sigmoid	"	2
d. Rectum	"	9
e. Liver (primary)	"	1
f. Gall-bladder	"	3
g. Pancreas	"	1
h. Omentum, secondary	"	3
G. Urinary Tract:	"	10
a. Kidney (hypernephroma)	"	1
b. Prostate	"	1
c. Bladder	"	3
d. Penis	"	2
e. Testicle (embryonal carcinoma	"	3
H. Lymph Nodes:	"	10
1. Secondary carcinoma	"	4
2. Lymphosarcoma	"	2
3. Endothelioma	"	1
4. Reticulum cell sarcoma	"	2
5. Leukemia	"	1
I. Thyroid:	"	2
1. Carcinoma	"	1
2. Osteogenic sarcoma	"	1
J. Neck:	"	1
1. Neurogenic sarcoma.		
K. Orbit:	"	1
1. Melanotic sarcoma.		
L. Thigh:	"	1
1. Myosarcoma.		

If only for the purpose of opening a field for discussion, I want to mention heredity in connection with malignancy. I realize that opinions are divided in regard to heredity, but if one follows the work being done by Maude Slye and others, one has to admit that the reports are very convincing. I believe we should pay attention to heredity and that we should at least trace the family history for two or three generations in all cases where there is any suspicion of malignancy. Just a short time ago, I saw a boy about 13 years old with a tumor on the tip of his tongue with the history of two aunts receiving treatment for malignancy at the present time and a grandfather who had died from a growth which destroyed his tongue, part of the trachea and larynx. After the physician had removed the tumor from this boy's tongue and sent the specimen to a pathological laboratory for examination, the report of the laboratory diagnosis was malignancy. This is just one case, but I am confident that you all have seen many of this character in the past.

Some years ago malignancy was considered a disease of middle life but today we know differently. Therefore we should all be on guard and always looking out for these conditions. Many malignant tumors grow very slowly and are slow to metastasize, such as growths of lower colon and rectum. A great number of these patients have repeatedly consulted their family physician and because they appear in good health he invariably gives them a laxative or advice about diet when he should have made a thorough rectal and colon examination. Why should we members of the medical profession allow malignancy of the breast, gastrointestinal tract, urinary tract, uterus and superficial tumors to go beyond the first visit the patient makes

to our office without getting a specimen or at least sending the patient to someone who could and would do a biopsy. With our set-up today, such as well equipped laboratories and rapid transportation there is little excuse for not taking our patients to a laboratory where a study can be made or at least sending a biopsy to a well equipped pathologist.

I am not making this plea so much to men in larger centers as I am to the family physician and men in smaller communities since they are the ones who see these patients first and if they do not find the condition in the early stage it is generally too late to hope for a cure by the time the patient has reported to a hospital. I realize that many patients refrain from having an examination and do not consult a physician, until it is too late for much assistance in malignant conditions. However, we should spend more time in the examination of our patients who do willingly submit to an examination. We should make a complete physical examination, inquire into the family history for several generations, especially if there is any condition to make us suspicious of malignancy regardless of the patient's age, do a biopsy or preliminary operation which could be followed, in many cases, by a frozen section and later by a thorough examination by a well qualified pathologist of the specimen removed.

I can hear some of you saying, suppose this patient will not let us make a suggested examination. My reply is that the medical profession could control all the medical and surgical problems if they would stand united.

I well recall when I first started to practice, that it was rather unusual to see a case of appendicitis come into the hospital for operation who had not previously been given a number of purgatives. A great percentage of the cases had already developed an abscess formation or ruptured appendix; but now conditions are just the reverse, a great percentage of them are operated on or referred by the family physician a few hours after the first visit. The same should be done in cases of malignancy.

It is my hope that in the very near future every county medical society in West Virginia will give at least one meeting a year to the discussion of early diagnosis of malignancy, to be followed by the State Medical Association designating a week in each year to be known as Cancer Week.

Let us all become cancer minded!

MARRIAGE OF COUSINS

If two healthy cousins of sound ancestry want to marry, there is no good reason why society should forbid them to do so, declares Paul Popenoe in his article "Should Cousins Marry?" appearing in the November issue of *Hygeia*.

In passing judgment on cousin marriage today, one should take at least three points of view into consideration: the biologic, social and psychologic. From the first standpoint, cousin marriages as such are no different from any other marriages. Their success depends on the kind of heredity the two partners carry. If both carry strong traits, the children get a double dose of these and are benefitted accordingly. If both carry weak traits, the children are penalized to correspond.

In practice, if two healthy and normal cousins come from sound families, with no evidence of serious inheritable defects for three generations on either side, there is no reason for discouraging them if they want to marry.

Socially, the individual usually has most to gain by going outside his own kindred. A cousin marriage does not bring about the union of two different family circles, with its added extensions of influence, friendship and support. It usually indicates an unduly narrow circle of acquaintance of the young people, suggesting that they have not had a normal social life with ample range of friendship. Actually, this is often the case; groups may be isolated geographically or by racial, religious or economic barriers.

Psychologically, the man who wants to marry his cousin is sometimes recognized as handicapped by too narrow an outlook, perhaps by a mother fixation. Unduly sheltered, unsure of himself, afraid to face the wider world, he feels more secure if he marries a girl who is a member of his own family.

EARLY TUBERCULOSIS*

By ALLEN A. TOMBAUGH, M. D.
McConnelsville, O.

WHILE great progress has been made in the reduction of the mortality from tuberculosis in the past quarter century, yet it still ranks as one of the greatest agencies for destroying human life and so demands the earnest attention of all practitioners of medicine.

The very fact that the mortality has been greatly reduced calls for still greater interest on the part of the profession than has ever yet been manifested. For now we can truthfully say it is a preventable and curable disease. But regardless of the progress made, advanced tuberculosis still remains a menace to the individual who has it and through him to the race.

Early tuberculosis can nearly always be healed with restoration of the patient to an efficiency little, if any, short of normal. Even if one is suffering from advanced lesions, he may still overcome the disease; but he maintains his health thereafter only by living carefully and always bearing in mind that he has had a serious infection which may again be stirred to activity through indiscretion or stress.

The ravages of tuberculosis can best be stayed by eliciting the earnest coöperation of general medical men. Specialists may make the diagnosis with greater accuracy because of their attention being constantly held to this one subject, but specialists do not see the case first. The man who sees the disease in its infancy is the family physician, so upon him rests the burden of early diagnosis.

The most important thing for the physician to know is when to suspect the presence of active tuberculosis. He can get his mind in the most advantageous mood for aiding in the fight against tuberculosis by keeping the disease always in mind and being thoroughly imbued with hopefulness if diagnosed and treated early, and its seriousness if neglected.

For those who are not accustomed to making frequent chest examinations it should be known that a fairly accurate opinion may be formed in most cases of active tuberculosis by other methods of studying the patient. Of these the most important is the clinical history. By carefully analyzing the clinical history alone, a very large majority of frank cases of early active tuberculosis may be diagnosed.

The symptoms of tuberculosis are many and varied. No one symptom alone is of value but all symptoms must be carefully considered and given their place in the diagnosis.

For sake of brevity in giving the symptoms Pottenger's classification will be used. Three groups are given.

1. Those due to toxemia and other causes acting generally.

2. Those due to reflex causes.

3. Those due to the tuberculous process itself.

Under those due to toxemia are listed:

I. Malaise, which is one of the very important symptoms of active tuberculosis, a gradually developing tiredness, one that seems not to be accounted for by anything the patient is doing and further may at times seem out of proportion to other signs of disease that may be present.

II. Loss of weight. During health a fairly regular weight is maintained by most people with variations of a pound or two in the course of weeks. If there be a loss of from five to ten pounds within a few weeks' time it should

*Read before the Academy of Medicine, Parkersburg, on October 7, 1937.

be considered as having some serious nutritional change as a basis, such as is so frequently produced by the toxins of tuberculosis.

III. Temperature. A rise of temperature of a few tenths of a degree was formerly considered as a sufficient basis for diagnosing tuberculosis. It is known today that other infections, instability of the nervous system and various other factors will cause a slight elevation of temperature. So temperature by itself is of little diagnostic value, but in combination with malaise and loss of weight become of vast importance.

IV. The other symptoms under this group are night sweats, metabolic disturbance, digestive disturbances and increased pulse rate.

Under those due to reflex causes:

I. Hoarseness and throat irritation. If one inquires carefully into the history, the patient will often complain of slight hoarseness and throat irritation. This is due to the reflex relationship between the pulmonary branches of the vagus and the laryngeal branches of the same nerve. Cough is a part of the same reflex.

II. Flushing of the face. This is a reflex through the vagus and fifth cranial. It rarely manifests itself unless the infiltration in the lung is fairly extensive and the disease active.

III. The other symptoms under this group are circulatory disturbances, chest and shoulder pains and diminished motion on affected side.

Under those due to the tuberculosis process itself:

I. Hemoptysis. We formerly believed that spitting blood, unless it could be shown to come from the gums or a heart lesion, was due to tuberculosis but this must be revised as we now know that since the pandemic of influenza we have had many infections of the respiratory tract that now and then may cause spitting of blood. Tuberculosis is by far the most common cause of hemoptysis, yet we should remember the other causes. Small streaks or specks may be disregarded. But any amount from a dram on up has a very significant diagnostic part to play.

II. Sputum. Sputum is of the greatest importance in diagnosis. If bacilli are found, that alone is sufficient. This is the only symptom alone on which a diagnosis can be made. Negative sputum, however, has no definite diagnostic significance. Yet a small amount of sputum coming on when the patient is below par or persisting for a time after acute bronchitis should be always considered as possibly due to a tuberculosis. One should not rely on the statement of the patient that he raises nothing. He should be given a cup and have him save all expectoration for a period of 24 to 48 hours and this should be concentrated and examined. Small amounts of sputum accompanied by toxic symptoms and cough are very suspicious of tuberculosis.

III. Pleurisy. Pleurisy, whether dry or accompanied by effusion, is most often due to tuberculosis. Pleurisy with effusion without other known cause, has long been considered as being due to tuberculosis.

IV. Frequent and protracted colds. Tuberculosis at times in its early stages takes the form of repeated attacks of bronchitis. The patient usually considers each attack a cold. The symptoms in such cases are caused by a metastatic extension of the disease, usually caused by comparatively small numbers of bacilli, yet sufficient to produce an allergic reaction.

The patient usually has a slight elevation of temperature of four or five days' duration, is toxic, has headache, suffers from malaise, loses appetite and some weight. He often thinks he is bilious. He usually coughs and may or may not expectorate. The toxic symptoms with temperature may clear up within four or five days or may hang on for several weeks. Even if the toxic symptoms subside after a few days, cough and expectoration, if present, usually continue for several days or weeks longer. The sputum during and immediately following the attack may show the presence of bacilli even though they disap-

pear later. An x-ray at this time may show a flakiness which will pass away in a few days or weeks.

Of these three groups of symptoms the last group has the greatest significance as any one of the symptoms mentioned will lead to a positive diagnosis in itself if accompanied by one or more of the symptoms enumerated in the previous groups.

Diagnosis: It will be seen from this discussion of the symptoms of active tuberculosis, that if physicians who are not specialists in diseases of the chest will learn to think of symptoms from the standpoint of their etiology and learn to put an interpretation upon them as they appear in combination, they can nearly always arrive at a probable diagnosis. If in doubt, or if they wish to make diagnosis more certain, there are other measures at their command which will aid.

1. Atrophy of soft tissues over chest. Often, on the first glance at a chest, one sees a lessening of tissue above the second rib anteriorly and the spine of the scapula posteriorly. Sometimes this is considered and spoken of as contraction of the apex, but careful inspection with or even without palpation, will reveal that there is a lessening in the subcutaneous tissue. It is thinner than below the second rib, or if it is confined to one side it is thinner than on the other side. Palpation either by feeling with the tips of the fingers or by picking up the tissues between the thumb and fingers will aid the eye very much in detecting this atrophy. This is an atrophy produced reflexly by some chronic inflammation in the lung, usually a tuberculosis.

2. Diminished motion of the side. The diagnosis of a pulmonary tuberculosis is strengthened very much by finding diminished motion present along with suspicious symptoms of other groups.

3. Râles. Râles heard on coughing or on inspiration following cough are valuable as indicating that inflammation is or has been present in the underlying lung, or pleura, or both. It requires considerable experience to interpret them properly, and to distinguish those in the lung from those in the pleura. Their presence, however, no matter what their origin, gives evidence that the underlying structures are or have been the seat of inflammation. It is necessary to be on the lookout for râles in the tissues surrounding the hilum and toward the base as well as apex, for we find a great deal of tuberculosis starting in these areas of the lung.

4. X-ray. The x-ray is assuming a very important rôle in the diagnosis of chest diseases today. Many errors are being committed because of placing too much confidence in a film regardless of its quality. I see many films which are overshot and underdeveloped, or overshot alone, in which the rays pass through without causing shadows even though sufficient disease to cause shadows be present. The best plate is a moderately soft one, developed carefully to bring out detail. Such a plate will aid greatly in diagnosis. A poor plate shows no more than a poor physical examination and the value of the two are on a par. Soft flaky shadows are most significant of active tuberculosis. They may be in any part of the lung but are most common above the third rib, not necessarily at the apex. They are often found near the hilus running out toward either the apex or base. Flakiness is present only when an area of softening or an allergic reaction is present. When this has passed away, as it will after a few weeks following a metastasis or reinoculation of mild degree, the x-ray may fail to show the disease.

5. Tuberculin. The tuberculin test should always be used in case of doubt, but more particularly should this test be used in those cases in which there is a suspicion of tuberculosis in children between the ages of two and 12 years as very often in this type of case, due to the vagueness of all symptoms complained of, there may be some small area or glands which are overlooked on physical or x-ray examination and only the tuberculin test will reveal these.

In Summary: 1. By carefully taking the clinical history and classifying the symptoms according to their etiology, and assigning to those present their combined value, one can make a probable diagnosis in nearly all frank cases of early clinical tuberculosis.

2. The sputum should always be examined, no matter where the patient thinks it comes from. A twenty-four to forty-eight hour specimen should be examined in all cases where the amount raised is small. Examining by one of the methods which concentrate the bacilli will show their presence in many instances where they are not found by the smear method.

3. Areas of atrophy of the soft tissues over the thorax should be looked for because they tell of previous inflammation in the underlying lung and pleura.

4. Diminished motion of the chest wall on one side is present in all cases of unilateral active clinical tuberculosis.

5. The x-ray is a great aid to diagnosis. Many plates on which an opinion is given are so poor that they are not only valueless but harmful. A moderately soft plate, carefully developed, is most dependable. A negative film does not imply the absence of disease.

6. Râles may indicate the presence of active disease in the underlying lung or pleura, or of a chronic or obsolete process. They must be interpreted in conjunction with other symptoms. Those who examine chests for early tuberculosis infrequently should disregard all râles except those which are of a definitely moist nature.

7. All cases in which there is a suspicion of tuberculosis which can not be proved otherwise should have a tuberculin test made.

Rocky Glen Sanatorium

THE TREATMENT OF ACUTE PNEUMOCOCCIC EMPYEMA*

(With Special Reference to Early Drainage)

By W. L. COOKE, M. D.
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IN PRESENTING such a controversial subject as the treatment of acute empyema, I realize I am putting my head into the lion's mouth. I am merely presenting my personal views regarding a limited type of empyema—acute pneumococcic—the incentive being a question asked by one of our leading internists at a staff meeting recently, "How long do you wait after the formation of pus, before draining acute empyema?"

There are cycles in medicine in which the pendulum swings to each extreme before returning to the middle of its arc. In the case of empyema, immediate drainage was practiced before the illuminating report of the United States Army Empyema Commission in 1918, and with rather alarming mortality. Since this report, the pendulum has swung to the other extreme where in a great many instances, the optimum time for drainage is passed, and definite harm done the patient by allowing marked toxemia, and the development of chronic empyema. I would like to distinguish between empyema caused by the pneumococcus and that caused by other organisms, it being my belief that the former can be drained much sooner, lessening both the time of recovery and the chronicity of the disease.

In a report covering one hundred deaths from empyema at the Charity Hospital in New Orleans, Urban Maes reported that 40 per cent were caused by toxemia, and that this number could undoubtedly have been lessened by earlier drainage, as twenty-nine of the forty cases had been ill over a month

*Read before the West Virginia State Medical Association, General Scientific Session, Clarksburg, May 26, 1937.

before surgical drainage was instituted. It is not my intention to advocate surgical drainage in the presence of clear pleural fluid which often occurs in pneumonia and may contain leucocytes and even bacteria. In most cases this clear fluid will resorb, and certainly does not indicate a true abscess or empyema. To institute drainage before the formation of thick pus, is to treat a condition which does not exist. The condition of the patient, the character of the pus, and the nature of the infecting organism, are much more important indications for surgical drainage than the mere length of time the empyema has been present.

I do not for one instant wish to convey the impression that I would institute drainage when the pneumonic process is still active. An important difference between pneumococcal and streptococcal empyema is the fact that in the former condition, the pneumonia is in a stage of resolution, usually, before pus has formed in the pleural cavity. The temperature furnishes an active guide, being continually elevated in the presence of pneumonia, and being of a septic, irregular, spiking type, when empyema without pneumonia is present. Aspiration may be resorted to in these cases of synpneumonic empyema, to relieve any respiratory embarrassment; but surgical drainage is best deferred, especially if the temperature shows no drop after aspiration. In Maes series of deaths, sixteen per cent resulted from a pneumonic spread, largely resulting from surgical drainage of empyema, in the presence of acute pneumonia.

The typical pneumococcic pus presents a greenish appearance, and resembles a thick pea soup, contrasted to a translucent, glistening, semipurulent material obtained early in streptococcic infections. Mason of Birmingham, found that thick pus was obtained in an average of eighteen days after the development of pneumonia in cases treated in the hospital, but pointed out, that an average of thirty-three days elapsed from the development of the respiratory infections until surgical drainage, in those cases treated outside of the hospital. In other words, an unnecessary two weeks had elapsed during which time additional toxic absorption had occurred, before the pus was evacuated. This was largely due to following the pendulum to the extreme limit of temporizing as advocated in the streptococcic infection following the 1918 influenza epidemic.

I will readily admit that in a virulent streptococcic epidemic, it may take much longer for the pus to thicken. The bacteriologist should always examine the material in order to isolate the organism, and confirm the clinicians opinion—a positive pneumococcus being indication for earlier drainage than either streptococcus or staphylococcus, as it tends to occur later in the course of pneumonia, and readily becomes purulent.

Fluid having been confirmed by x-ray, a diagnostic aspiration is done at once, if the patient is over the acute pneumonic process. If the pus is of a thick, pea soup consistency, and the bacteriologist reports pneumococcus, I institute surgical drainage, preferring a rib resection with open drainage, under local anesthesia, sometimes reinformed with nitrous oxide. By using patience, and taking time to explain to the child what is taking place, I have found no difficulty in using local anesthesia in children. It is best to infiltrate first the intercostal nerve posterior to the portion of the rib to be resected, as thus the impulses are often blocked, making remaining novocaine injections much less painful. It is also well to infiltrate the intercostal nerve of the interspace above the rib to be resected, in addition to the nerve lying under the inferior margin of the chosen rib. To prevent too rapid evacuation of the pus, vaseline gauze, or a wet dressing is often placed over the tubes serving as a partial one way valve, and preventing too rapid pressure changes, although I have never observed any ill effects from early operation if the pus is thick.

It is conceivable that in extremely ill cases, open intercostal drainage may be indicated; but I believe if the case is drained as soon as thick pus is discovered, rib resection adds

very little shock. Osteitis of the rib occasionally occurs, but according to reports, occurs as often in intercostal drainage as in rib resection, the pressure of the drainage tubes in a restricted space causing erosion of the periosteum. I have been unable to arrive at any definite rule regarding the length of time drainage tubes are left in place. Temperature fall, x-rays to determine re-expansion of the lung, and lack of purulent discharge are the factors on which we have to depend; but none seem infallible. Re-expansion is often much more rapid after removal of the tubes, although it has apparently been at a standstill with the tubes in place. I have found that the presence of the tubes often serves to increase the amount of discharge, and to keep the temperature elevated by acting as an irritating foreign body, and have seen the temperature curve lowered several degrees after removal of the tubes. Usually, in ten days, the original tubes are removed to be replaced with smaller tubes or gauze packs, to keep the wound from closing. If there is no evidence of further pus formation, all drainage is discontinued in a few more days, and the patient often leaves the hospital in from fourteen to eighteen days, to be under the observation of the local physician, returning at his discretion for flouroscopic examination, until the lung has completely obliterated the empyema cavity. Our average period of hospitalization is twenty-four days after rib resection. The cases are not necessarily healed, as the lung has not completely obliterated the cavity, but we have found it impractical and unnecessary to continue hospitalization over more lengthy periods.

I ascribe to the statement made by Evarts Graham, "Our chief bone of contention with those who emphasize details rather than principles in the treatment of empyema is, that an acute empyema is frequently converted into a more serious chronic empyema, by allowing the most favorable time for open drainage to slip by, while the patient is being treated with repeated aspirations or closed drainage."

During the last five years I was able to collect fifty cases of acute pneumococcic empyema treated by the staff of the Charleston General Hospital. There were four deaths, (an eight per cent mortality), and two passed into the classification of chronic empyema, draining five and six months respectively. These two cases ran a very similar course, illustrating the statement just quoted. Both were treated by closed intercostal drainage to start; had a secondary open intercostal drainage; and, thirdly, a rib resection before drainage was adequate. One of these cases cleared up entirely with complete re-expansion of the lung twenty days after the rib resection, and neither has had a recurrence in over a year. I feel that we were extremely fortunate in not having to resort to radical thoracoplasty to cure these cases, which undoubtedly reached the chronic stage due to inadequate drainage.

Deaths were due to pericardial effusion, bronchopleural fistula, toxic diarrhea, and pneumonia. The last had a closed intercostal drainage on a synpneumonic empyema when she was in extremis, dying three hours later. An aspiration would have probably been better than closed drainage, although the patient was apparently moribund from pneumonia. The case of pericardial effusion developed four days after closed intercostal drainage, and the parents of the child refused pericardiotomy, taking her home where she later expired. The case with the bronchopleural fistula, developed empyema following lung abscess, reported to be pneumococcic, and was treated by aspiration for two weeks. Her toxemia progressed so much that an open intercostal drainage was done in bed. Very little pus was evacuated, and she died in twenty-four hours after expectorating pus estimated at about a pint. Our fourth death was a thirteen month old girl who succumbed to a toxic diarrhea twenty-three days after rib resection and open drainage, the drainage tubes being out and the lung eighty per cent re-expanded. I cannot help but feel that more adequate, and earlier drainage would

have offered more chance of lowering the mortality in the last three cases.

There are doubtless many present who can produce series of cases treated by aspiration or closed drainage with much better mortalities. In reviewing the literature, the methods recommended are varied even to the bizarre; but the first principle in the treatment of empyema is adequate drainage, and I feel that open rib resection offers the most foolproof procedure. The often repeated warnings of the dangers of open pneumothorax apply to the thin pus that was so often drained in 1918; but, when the pus has thickened, the mediastinum has become relatively fixed, eliminating the shock from a too rapid shift. In other words, in the influenza epidemic, surgical drainage was done before a true abscess was formed, and all surgeons know it is far more dangerous to incise a streptococcal infection of the finger before it has become a true abscess, than later. Closed drainage would seem to possess no advantage over repeated aspirations in synpneumonic empyema or cases where the pus is still thin, but causing respiratory embarrassment.

The advocates of closed drainage point out that the lung is not collapsed in this method, and that therefore the empyema cavity is obliterated much sooner. It has been my experience, that the majority of these cases are sooner or later converted into the open type. Carlson reported rather extensively regarding the healing of empyema cavities, and concluded that obliteration of the cavity was due to the contraction of granulation tissue at the angle of fusion of the visceral and parietal layer of pleura. By using a closed system with negative pressures of from 10 to 30 mm of water (secured by a water pump), he was able to gain rapid re-expansion of the lung, but reported encapsulation requiring secondary drainage in two of thirteen cases. By this forced re-expansion it would seem that contact between visceral and parietal pleura might be established at irregular points causing blockage at the point of drainage before more distant areas had healed. In other words, there would be some tendency toward prevention of healing from the "bottom of the wound," in addition to possible lung damage by suction.

To Summarize: 1. A distinction between pneumococcic empyema and those cases caused by other organisms should be made.

2. Operative intervention is frequently delayed past the optimum time for drainage in the pneumococcic type.

3. Open drainage after rib resection is advocated as being the most foolproof type of treatment.

4. The old adage of draining only in the presence of thick pus is adhered to; but further delay after this point is indicated only in the continuance of the acute pneumonic process.

THE HEALTHY CHILD

A healthy, attractive, child is never just naturally or accidentally so. His appearance is the result of faithful, daily care from babyhood on through the years, Thelma Knoles says in her article "Growing Up Well Groomed," which appears in the November *Hygeia.*

There is a beauty routine for children which should start as soon as there are two hairs to brush or one tooth to clean, and with baby's first bath. Of course this does not mean finger nail polish, the curling iron or a touch of peroxide. Rather, there are certain duties which may become regular, daily performances.

The tiniest baby can have his finger nails cared for. The cuticle may be pushed gently back while it is so soft. After the bath a little oil may be rubbed into the scalp. The two year old can learn to brush his own hair before going to bed at night. He can scrub his hands and elbows and finger nails with a little brush and a pan of soapy water.

If you want your child to be a picture of health and to glow with youthful cleanliness, you have to work for it and teach him to work for it with you. Clear skin and glowing eyes, red lips and rosy cheeks, silken, bright hair and a straight, strong figure are the results of health, won by the observance of a correct diet, sufficient rest, fresh air and sunshine; but their shining beauty is preserved through faithful daily grooming.

DELAYED UNION AND PSEUDARTHROSIS*

By JUSTUS C. PICKETT, M. D., F. A. C. S.
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IN ORDER that we may be able to follow the various abnormalities considered in any discussion of delayed and non-union in bone, it is appropriate to discuss briefly the normal changes that take place following fracture and the basic physiological and chemical reactions of bone repair.

The immediate post-traumatic reaction depends more or less upon the degree of displacement of the broken ends. The periosteum may be stripped slightly or extensively and hemorrhage may occur immediately into the muscle bundles, fascial planes, and spaces where it clots. Edema occurs as a result of irritation due to hemorrhage and to the torn lymphatics. In those instances without marked displacement, those not compound and those that do not enter a joint, the reaction is kept localized by the periosteum and fascial boundaries. Organization of the clot by the invasion of capillaries and young fibroblasts, to form granulation tissue, provides the groundwork for healing.

Four to five days after the fracture, calcium deposits are visible microscopically and within ten days the clot has become transformed into a tenacious material that resists attempts at manipulation and represents the early callus. Cartilage-like cells can be demonstrated in the callus in addition to the deposits of calcium, but actual cartilage usually appears only in those cases where too early or too much motion is permitted at the site of fracture. The callus is later invaded by new connective tissue cells, and some authorities believe that true bone forms beneath the periosteum near each end of the fractured bone and grows toward the fracture line, gradually replacing the callus, although McGaw and Harbin have shown experimentally that the endosteum and bone marrow aid in regeneration of bone. By the end of one month the callus of a disphyseal fracture is clinically firm and compact. Osseous union, depending upon the location of the fracture, is firm in six to twelve weeks and solid bony union occurs in from four to six months, although the normal bony architecture is not restored until nine to twelve months.

The source of the deposited calcium salts has not been exactly determined. The decalcification and rarefaction which can be demonstrated in the ends of the bone fragments by x-ray examination lead to the belief that they are obtained locally, although there is acceptable evidence of their derivation from the blood serum. The one definitely proven fact is that absorption and deposition of calcium take place simultaneously. It has been shown by Robison that the enzyme phosphatase is present at the site of bone repair and that it causes precipitation of calcium from a mixture of calcium salts in a certain hydrogen-ion concentration. The hydrogen-ion concentration depends upon the circulation, and thus we see that impairment of the circulation may develop a Ph which retards new bone formation.

Bone is usually regarded as an inert substance serving only as a mechanical support, but actually it is a most active living tissue and just as vital and essential to life as any organ. It contains an orderly system of blood vessels, nerves, and lymphatics; encloses the marrow from which the blood is largely manufactured, and is the store house for calcium.

Fractures due to direct or indirect trauma vary only in regard to the damage that may be done to the adjacent soft tissues that are

*Read before the Section on Surgery, W. Va. State Medical Association, Clarksburg, May 24, 1937.

attached or lie next to the site of the break. A severe degree of trauma acting indirectly may produce more local damage than a lesser degree acting directly on the site. In our present era of high speed transportation and complicated machinery, it is important to know and to understand the amount of force, its direction, and the length of time it acts. For instance, a man may be struck and thrown some distance and suffer several distinct breaks, or on the other hand he may be caught in a belt which continues to move, and winds the extremity around until it is badly crushed and mangled. The latter may first of all injure the blood supply or strip the muscles so completely as to remove that source of nutrition to the damaged parts. Secondly, the periosteum may be completely stripped from one half and other end may be covered over by the torn or denuded covering. A fracture may also be a sharply defined transverse line, the periosteum not being elevated from either fragment and very little new growth of bone is to be seen. Multiple fractures usually show a delayed tendency toward healing and badly contused compound wounds rather consistently disseminate any infecting organisms widely throughout the wound. All of these are variations to be found during treatment and are of importance in considering the prognosis.

Delayed Union: Delayed union is a self-explanatory term and may be present for months before union occurs. The time of union may vary within wide limits dependent upon different conditions. The time required for the consolidation of a fracture varies not only according to the size of the bone but with each individual bone; with the type and position of the fracture; the kind of injury, and the age and general condition of the patient. Debilitating or wasting diseases and disturbance in the calcium-phosphorus metabolism all play some part in its occurrence. Inadequate immobilization and inaccurate reduction are probably of chief importance. Repeated inspection of a correctly reduced fracture to determine the state of healing is harmful. If properly reduced, it should be left alone until x-rays reveal solid bony union. A certain amount of absorption by demineralization usually takes place at the site of all fractures. When movement of the fragments is permitted, decalcification from hyperemia is increased and delay in union results. With correct reduction and proper immobilization a minimum amount of absorption occurs and prompt union results, although McMaster has shown that new bone will not jump a gap to form union even with an intact periosteal tube. The fragments must be pressed together, preferably impacted slightly and not separated by over pull from excessive skeletal traction. With the increasing use of skeletal traction and the appearance of many mechanical appliances numerous reports of delayed union have been found due to separation of the fragments by too much traction. In transverse fractures, callus formation may be slow due to the fact that the periosteum is not stripped free from the ends. In infected comminuted fractures, rapid and abundant callus formation may occur if a timely outlet is afforded to the pus. If this is not done the fragments lie in the abscess, die, and the periosteum is separated from the bone.

Any consideration of delayed union should be chiefly concerned with means to prevent its occurrence. It can best be avoided by early, exact, and gentle manipulation and reduction, avoiding trauma, impairment of circulation, and separation of fragments by excessive traction. Early removal of the usual apparatus for fixation, in order to carry out physiotherapy, occasionally causes displacement of fragments, deformity, and delayed or non-union.

Delayed union requires expectant, non-operative treatment since callus formation can usually be stimulated and should consist of measures to improve the local circulation and stimulate bone formation. Long continued, undisturbed fixation of properly reduced fragments, accompanied by free and

active use of the limb, will usually give satisfactory union. In the lower extremity this is best accomplished by weight bearing in a carefully applied non-padded cast with a walking iron. This allows active use and is superior to physiotherapy in that it is continuous rather than intermittent. Nutrition is provided and atrophy prevented by the normal flow of blood, the alignment is maintained, and any shearing force is prevented. The same is true in the upper extremity when the cast is applied so that exercise of the fingers, hand, wrist, and arm is carried out by constant active use in every day tasks. Hippocrates stated in his early writings that "All bones get consolidated more slowly, if not laid properly, and if not kept steady in the same position" and again "it should be kept in mind that exercise strengthens and inactivity wastes." Diathermy has been shown to have a place in increasing local circulation. Passive congestion or hyperemia produced by applying a tourniquet above the fracture site will occasionally stimulate bone formation. The value of the various glandular products and various medications is very doubtful; and concerning this factor alone Boehler states: "In more than 12,000 cases of fracture, all of which have firmly united in the absence of any special complication such as large wounds or loss of bone, I have never used internal medication. As I have seen hundreds of cases that have come to me because of delayed or non-union and as these cases have had all possible internal medication, I am unable to believe that such medication has any effect. I have examined some cases in the literature where it is alleged that they have produced some result and usually found a typical history as follows: In a transverse fracture of the tibia, for example, after five or six weeks the diagnosis of delayed or non-union was made. The various medicaments were administered often with numerous changes. When, after four to six weeks more, bony union occurred, this was attributed to the chemical preparation, the fact being overlooked that time had healed the damage, for ten to twelve weeks are required for the firm union of a transverse fracture of the tibia that is properly treated. On the other hand I have noticed that while the treatment by internal drugs has been carried out for months or years the fixation of the fracture has been neglected. The patients have often damaged their stomachs by the long continued and abundant use of these internal drugs. This affords the best evidence that delayed and non-union should be treated only by mechanical methods and not by chemical."

Keyes has shown that local injection of calcium was not helpful and others have shown similar substances to have no favorable effect on the final outcome. Mackay, Johnson, and Hazard have recently produced evidence that local injection of amniotic fluid concentrate is of help in stimulating healing. A well balanced diet that will supply sufficient mineral to maintain the calcium-phosphorus of the blood at normal level is considered by most authorities to be of benefit.

Non-union: Non-union or pseudarthrosis is the failure of bony union between fragments and may be present within a few months. The diagnosis should usually not be made earlier than six months after the injury, and even then firm union may occur without operation. Non-union is not distinguished from delayed union by any time limit but by the fact that when the physiological process of healing has stopped, and union has not taken place, no matter how short or long a time has elapsed non-union can be said to have resulted. Non-union of the shaft generally occurs in strong, healthy persons and is more common in men than in women. A cross section of statistics shows that two to three per cent of all cases in civil life result in non-union and the various bones affected in order of occurrence are: 1. Tibia. 2. Radius. 3. Humerus. 4. Femur. Both constitutional and local causes are responsible for this condition. Systemic diseases such as tuberculosis, osteomalacia, rickets, debilitating diseases, and in rare instances syphilis appear only to delay and not to prevent callus formation. Gumma,

carcinoma, sarcoma, and osteomyelitis are local bone diseases and need only to be mentioned.

Non-union is most often the result of local causes and may be found associated with one or more of the following conditions:

1. Separation of fragments is perhaps the most common cause. This may be the result of distraction as is seen in the patella, olecranon, and often the humeral shaft or of excessive pull of skeletal traction which keeps the fragments apart, and has occurred with increasing frequency with the increased use of skeletal traction.

2. Lack of contact due to faulty or unsuitable initial treatment or inadequate fixation allowing excessive motion at the site of fracture. This may be observed in the upper end of the humerus; the radius due to tendency toward pronation; upper end of the femur because of outward angulation, or the femoral shaft which sags backward, although this rarely occurs because of the size of the bone and its extensive muscular covering. Absence of contact may also be due to an intact companion bone as is seen in the radius and ulna and tibia and fibula.

3. Repeated manipulation to improve the position or test the degree of healing disturbs the circulation between fragments. Interference with the blood supply to the bone may also be due to destruction of the periosteal blood supply by stripping or tearing or to interference from splints. Johnson has shown experimentally that the periosteal blood vessels supply only the outer half of the cortex, the remainder being supplied by the medullary or nutrient vessel. Damage to one or both sources from displacement, etc., may delay if not entirely prevent union.

4. Loss of bone as a result of the free removal of fragments or the extrusion of fragments in a compound fracture. Exposure and infection may also occur in a compound fracture, although late union may take place in the presence of sepsis as it is simply a part of the phenomenon of union by granulation tissue.

5. Disturbance of circulation from early operative reduction. This may either injure the remaining blood supply or allow the bone forming material present to escape.

6. The use of non-absorble internal fixation. Simple metals hinder the growth of osteoblasts and alloys of aluminum are toxic to growing cells. Of all metals it is now felt that there are probably not more than three rustless steels that are safe to use. Combinations of metals have occasionally set up a miniature battery and by electrolysis destroyed the adjacent bone. The fragments may not be impacted by the steel plates, and slight absorption at the bone ends may keep them apart. Henderson of the Mayo Clinic has reported that in 211 cases operated upon for non-union, 66 per cent were due to the use of plates.

7. All gross conditions may seem ideal but only a fibrous union is obtained. This is usually in the humerus and tibia. The nutrient vessel and other sources of blood supply may be damaged at the time of the original injury or scar tissue may form between bone fragments before calcium deposition takes place.

8. Turner, Sudeck, Kienboch, Leriche, and others have described an acute and painful decalcification of bone at fracture sites which is reflex in nature and proceeds from traumatic irritation of the sensitive nerve conductors. It must be treated by prolonged immobilization, but in addition the nerve may be blocked at least temporarily by crushing or the injection of alcohol.

9. In fractures occurring completely within joints such as the neck of the femur and the carpal scaphoid, non-union frequently occurs. Those fragments are not well supplied with blood and have no muscular covering. Union is brought about by the growth of new blood vessels across the fracture line, and inefficient immobilization allows enough motion to damage these vessels constantly and prevent their growth, and sets up a retrograde process that leads to non-union. The healing seems to arise entirely from revived

osteogenic activity of the cancellous bone and it may be encouraged to return by renewal of immobilization that is complete. The action of the synovial fluids is not considered seriously as an inhibiting factor.

10. Small bone repair usually progresses slowly as the ossifying interval is long. The repair of phalanges, metacarpals, and metatarsals progresses according to the method of other long bones, but with minimum extracortical callus as the bony restoration comes largely from adjacent cancellous bone.

There are two distinct conditions found in non-union. The fragments may be covered with fibrous or fibrocartilaginous tissue or there may be a joint between the ends with the formation of a thick bursel sac containing synovical fluid. The tissues are usually matted together and the dense, hard, brittle, or atrophied bone ends covered with a firm fibrous tissue, which closes the medullary canal and forms an effective barrier to the growth of vascular sprouts across the gap. The ends may become tapered and conical or there may be excessive callus limited entirely to the proximal fragment.

Mobility at the fracture site may vary widely as do pain, swelling, muscular atrophy, and joint limitation.

Treatment consists of both constitutional and local measures. Constitutional treatment is of questionable value except to maintain a normal balance of nourishing substances.

Local treatment may consist of a proper brace but operative methods are the procedures of choice. It is erroneous to suppose that operative treatment of a fracture is permissible only after long use of conservative measures has proved useless. Operation should be done before the regenerative capacity of the fractured bone is exhausted and before retraction, contracture, atrophy of the muscles, and contractions of the capsule and ligaments of the adjacent joints have induced permanent injury.

The first operative procedure to be considered is bone drilling. This is carried out after the method of Beck or Bozsan, and the closed technique is advisable as it prevents the loss of blood and other callus forming substances. Multiple holes are bored through the ends of each fragment by using a small drill. The avascular membrane is penetrated, new channels opened for revascularization, and subsequent union in a large number of cases is reported by several clinics. This has been definitely of aid in the neck of the femur and the carpal scaphoid. The tibia and the ulna are more superficial and considerable success has been attained by using this method on these bones. In addition, in the lower leg it is usually necessary to perform an oblique osteotomy on the fibula, in order that the ends of the tibia may be approximated.

In the area where shortening is of less importance, as the humerus, resection of the unhealthy bone ends, usually in a step-cut fashion, may be carried out.

Most ununited fractures require some form of autogenous bone transplant before union may be obtained. In preparing a bed for the graft it is important to remove all scar tissue and sclerotic bone until bleeding occurs from healthy bone ends. There is no accepted opinion as to what happens to a free autogenous bone transplant. Some authorities believe that it lives to adapt itself to its new environment while others believe that it dies, forming only a framework for the growth of new bone. Phemister showed that it was not necessary to bring the periosteal side in contact with periosteum to obtain bone repair in grafting. Once a bony bridge is established across a fracture line the remaining callus will almost always ossify provided the fracture is adequately immobilized. As a general rule, the larger the graft the better is the chance for success.

There are several different types of bone grafts in common use, the choice of which may depend upon the site in the individual case and upon the training and experience of the operator.

1. The intermedullary or peg graft is used in a few clinics but is not an approved type. It provides a foreign body in the medullary

canal, has no physiologic action, and gives only fair fixation. If fitted tight it shuts off the nutrient blood supply and stops the growth of osteoblasts from the endosteum and marrow.

2. Osteoperiosteal or splint grafts give no support but they are plastic and can be moulded to fit the contour of the bone. They aid in the local calcium deposit when larger grafts are used and often callus forms more quickly. Spongy bone from the upper end of the tibia or wing of the ilium aids in the formation of new bone also.

3. The most widely used graft is the inlay. This consists of periosteum, cortex, and endosteum, and may be a sliding graft extending across the defect from adjacent bone. It is best used in the tibia and was popularized by Albee. It must be firmly anchored in its bed by catgut, silk or bone pegs.

4. The Massive Onlay graft of Campbell and Henderson requires special technique but gives the best results in most areas. The large graft from the tibia is firmly fixed across the defect by bone pegs or screws and is more difficult to carry out than with the inlay graft.

One distinct advantage of the last two types is that they provide good fixation. Because considerable absorption takes place before any bone graft is revitalized, a period of weakness develops, and adequate fixation, preferably by plaster casts, must be provided until union has become complete. Where nonunion follows infection, sinuses must be healed and all redness and swelling must have disappeared for at least six months and preferably eighteen.

Objection to these more complex operations is that the amount of traumatism, the technical difficulties, hemorrhage, general reaction, and risk of infection are sometimes greater than in simpler procedures. However, the advantage in cases in which realignment, approximation and fixation of fragments are necessary is such that one of the procedures should routinely be employed.

Conclusions: An attempt has been made to point out some of the common mistakes in the treatment of recent fractures and to emphasize the occasional disabling result. These results cannot always be avoided, but certainly their number could be reduced if the various preventative measures were kept in mind by the physician who is responsible for the early treatment. Whatever the results in treating these conditions may be, it is of far greater value to prevent those that can be avoided in the beginning. To obtain union of the fragments in a good anatomical and functional position with restoration of movement in joints and power in the muscles of an extremity in the shortest possible time, is the aim of proper treatment when a bone has been broken. Responsibility for this result begins when the injury occurs, continues with the transportation and examination of the patient, and is most rapidly and surely obtained if the broken ends are placed in contact and immobilized until quite firmly united by callus. If this occurs a good functional position is assured and movement and power return rapidly.

BIBLIOGRAPHY

1. Albee, F. H.: *Principles of the Treatment of Nonunion of Fracture*, Surg., Gynec. & Obst., 51:289, 1930.

2. Bancroft, F. W.: *Bone Repair, The Treatment of Fractures*, C. L. Scudder, Philadelphia, W. B. Saunders Co., 1928.

3. Bennett, G. E.: *Fractures of the Humerus With Particular Reference to Non-union and Its Treatment*, Ann. Surg., 103:994, June, 1936.

4. Bisgard, J. D.: *Ossification: Influence of Mineral Constituents of Bone*, Arch. of Surg., 33:913, Dec., 1936.

5. Bohler, L.: *The Treatment of Fractures*, 4th English Translation by Ernest W. Hey Groves, M. D., F. R. C. S., Baltimore, William Wood and Company, 1935.

6. Bozsan, E. J.: *A New Treatment of Intracapsular Fractures of the Neck of the Femur and Calie-Legg-Perthes Disease*, Jour. of Bone & Joint Surg., 14:884, October, 1932.

7. Idem: Jour. of Bone & Joint Surg., 16:75, January, 1934.

8. Campbell, W. C.: *The Onlay Graft in the Treatment of Ununited Fractures of Long Bones*, Southern Med. Jour., 20:107, February, 1927.

9. Idem: *Ununited Fractures*, Arch. Surg., 24:990, June, 1932.

10. Cubbins, W. R., Callahan, J. J., and Scuderi, C. S.: *The Causes of Non-union, Bone Growth, and Regeneration*, Surg., Gynec. & Obst., 62:427, February 15, 1936.

11. Delangeniere and Lewin: *A General Method of Repairing Loss of Bony Substance and of Reconstructing Bones by Osteoperiosteal Grafts Taken from the Tibia.*, Surg., Gynec. & Obst., 30:441, 1920.

12. Easton, E. R. and Prewitt, P. V.: *Ununited Fractures Treated by Bone Drilling*, Jour. of Bone & Joint Surg., 19:230, January, 1937.

13. Frantz, C. H.: *Fractures Occurring after Operation for Osteomyelitis of the Femur with Ultimate Union*, Jour. of Bone & Joint Surg., 18:969, October, 1936.

14. Gaenslen, F. J.: *Fracture of the Neck of the Femur*, A.M.A., 107:105, July 11, 1937.

15. Girdlestone, G. R.: *Fractures, the Treatment of in the Light of Their Ischemic Complications*, Jour. of Bone & Joint Surg., October, 1932.

16. Griswold, R. A.: *The Functional Treatment of Fractures*, The Physiotherapy Review, 15: 1935.

17. Griswold, R. A. and Joplin, R. O.: *Fractures of the Lower Extremity; Some Newer Considerations*, Ky. State Medical Journal, October, 1934.

18. Harbin, Maxwell and Liber: *The Behavior of Transplanted Bone*, Surg., Gynec. & Obst., 59:149, August, 1934.

19. Henderson, M. S.: *The Massive Bone Graft in Ununited Fractures*, J. A. M. A., 107:1104, October 3, 1936.

20. Jones, L. and Lieberman, B. A. Jr.: *The Interaction of Bone and Various Metals: Vanadium Steel and Rustless Steels*, Arch. Surg. 32:990, 1936.

21. Johnson, R. W., Jr.: *A Physiological Study of the Blood Supply of the Diaphysis*, Jour. of Bone & Joint Surgery, 9:153, January, 1927.

22. Kennedy, R. H.: *Transportation of the Injured*, Bulletin, American College of Surgeons.

23. Key, J. Albert: *The Effect of a Local Calcium Depot on Osteogenesis and Healing of Fractures*, Jour. of Bone & Joint Surg., 16:176, January, 1934.

24. Kay, J. Albert, and Connell, E. H.: *Fractures, Dislocations and Sprains*, St. Louis, The C. V. Mosby Co., 1934.

25. McMaster, Paul E.: *Bone Atrophy and Absorption*, Jour. of Bone & Joint Surgery, 19:74, January, 1937.

26. McGaw, W. H. and Harbin, Maxwell: *The Role of Bone Marrow and Endosteum in Bone Regeneration*, Jour. of Bone & Joint Surg., 16:816, October, 1934.

27. Morrison, G. M., Johnson, H. L. and Hazard, J. B.: *Promotion of Fracture Repair*, Jour. of Bone & Joint Surg., 19:425, April, 1937.

28. Owen, W. B.: *Ununited Fractures of the Shaft of the Humerus*, J. A. M. A., 101:569, August 19, 1933.

29. Phemister, D. B.: *Splint Grafts in the Treatment of Delayed and Non-union of Fractures*, Surg., Gynec. & Obst., 52:376, February 15, 1931.

30. Potts, W. J.: *The Role of Hematoma in Fracture Healing*, Surg., Gynec. & Obst., 57:318, September, 1933.

31. Shands, A. R. and Raney, R. B.: Handbook of Orthopedic Surgery, St. Louis, The C. V. Mosby Co., 1937.

32. Speed, Kellog: *Small Bone Repair*, Surg., Gynec. & Obst., 64:9.

33. Turner, Henry: *Some Thoughts on the Probable Causes of Non-union of Fractures*, Jour. of Bone & Joint Surgery, 18:581, July, 1936.

34. Wolcott, W. E.: *Circulation of the Head and Neck of the Femur and Its Relation to Non-union in Fractures of the Femoral Neck*, J. A. M. A., 100:27, Jan. 7, 1933.

TYPHOID FEVER WITH ASSOCIATED PNEUMOCOCCUS PNEUMONIA AND APLASTIC ANEMIA*

(Case Report)

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TYPHOID FEVER is a disease which even yet offers some difficulty in diagnosis. An investigation by Blankenhorn[1] into the question of recognition of the disease in hospital cases indicates that about 81 per cent are correctly suspected on the basis of clinical findings.

Certain cases, however, present unusual and misleading features. Among these pneumonia is given fairly prominent mention in the literature.[2 3 4] Futcher[5] states that in some epidemics of typhoid, lobar pneumonia may occur in 10 per cent of the cases, and Thorp[6] says that certain cases are apt to masquerade as pneumonia. The association of a pneumonic process has been frequently demonstrated clinically, radiographically and at autopsy.

Another interesting feature in some cases is marked anemia. Typhoid infection and its toxemia are known to be capable of causing such, but a review of the literature fails to find this receiving much mention and case reports are few. Dietrich[2] records two instances in children in which severe anemia was present. Pierret, et al[7] reported a case in a young adolescent in which they believed typhoid was the primary cause of a severe anemia with an agranulocytic syndrome. Nanu-Muscel, et al[8] have reported the fatal case of a twenty-two year old man in which their patient, considered to have pernicious anemia, had a typhoid infection.

Recently we had under observation in St. Joseph's Hospital, Parkersburg, West Vir-

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ginia, a fatal case of typhoid fever showing both a pneumococcus pneumonia and a secondary aplastic anemia. We believe it to be an interesting case and a record of the findings may be of interest.

Case History: Mrs. A. W., a white female, twenty-four years of age, became ill about January 8, 1937, with some respiratory ailment, apparently a nasopharyngeal infection, accompanied by headache, malaise, anorexia and a mucopurulent nasal discharge.

This illness was of about one week's duration, after which time she was seemingly well for several days and able to do her customary housework. At the end of these few days she again became quite ill with headache, joint pains, anorexia and marked weakness comprising the chief complaints. She was confined to bed, apparently ran a high temperature, though no accurate record of this is available, and she vomited several times.

This condition persisted with no noticeable change until February 10, a period of about three weeks. Then she developed some diarrhea and passed several black fluid bowel movements with some obvious clots. She became progressively weaker and on February 17, lapsed into a semi-coma. Two days later she was admitted to the hospital having then been ill approximately four weeks.

Her history previous to this illness shows no sickness of importance. She had never had typhoid fever and had never been inoculated with typhoid vaccine. Her family were poor rural people living under conditions of low standard. The only medication which she had received prior to admission to the hospital was some aspirin and seconal and a vermifuge, probably santonin. These had been prescribed by a local physician in her community.

PHYSICAL EXAMINATION

General: Body poorly developed, thin and undernourished; skin dry with cafe au lait tint particularly about face and neck; many depigmented areas of skin over lower neck, chest and back; no petechiae demonstrable; mucus membranes very pale; no lymphadenopathy; breath foul with odor suggesting acidosis; semi-comatose; no rigidity; temperature 105 (rectal); pulse 120, regular, not dicrotic; respirations 30 per minute, shallow and sighing; blood pressure 100 systolic, 60 diastolic.

Head and Neck: Pupils equal and regular, three mm. in diameter, reaction to light, good; conjunctivae and sclerae clear and not icteric; eyeballs firm; no nystagmus; extraocular movements and eyegrounds could not be satisfactorily tested; ears negative; external nares crusted with exudate; lips dry and cracked; tongue dry and coated; teeth fairly good; throat mildly hyperemic and dry, tonsils small; thyroid gland small and soft.

Thorax: Respiratory expansion poor on both sides, supra and infraclavicular fossae greatly depressed; dullness over posterior left chest down to angle of scapula, also in left axilla and over left anterior upper third with positive whispered pectoriloquy; other lung fields fairly normal to percussion and auscultation.

Left border of heart in sixth interspace six cm. from the midsternal line; right border of heart at right margin of sternum; heart configuration of "drop" variety; sternum resonant throughout; heart sounds of fair quality with a snapping first sound at the apex and the aortic second sound predominating over the pulmonic; no valve murmurs auscultated.

Abdomen: Liver three cm. below the costal margin with a smooth blunt tender edge; spleen not palpable; no masses; no rigidity.

Extremities: No varicosities; no purpuric patches; no spasticity; no paralysis.

Neurological: Bilaterally hyperactive tendon reflexes; corneal and palatal reflexes all present; absent abdominals; Babinski, Gordon, Oppenheim, Kernig and Brudzinski all negative.

Laboratory Examinations: (1) Blood—Feb. 19—Hemoglobin, 28 per cent (Sahli); erythrocyte count, 1,690,000 per cu. mm.; color index, 0.74; leucocyte count, 350 per

cu. mm.; differential count, insufficient leucocytes.

Feb. 20—Leucocyte count, 2,250 per cu. mm.; differential count, granulocytes, 68 per cent; juveniles, 1; banded, 21; segmented, 46; lymphocytes, 29 per cent; monocytes, three per cent; thrombocyte count, 50,000 per cu. mm.; coagulation time, normal; clot retraction, prolonged.

(2) Icterus Index: 25.

(3) Wassermann and Meinicke: Negative.

(4) Urinalysis: Sugar negative; albumin moderately positive; pus cells numerous; many cellular casts.

(5) Macroscopic Agglutinations: B. typhosus, positive 1-640 dilution of serum; B. paratyphosus A, no agglutination; B. paratyphosus B., positive 1-80 dilution of serum; B. abortus, positive 1-40 dilution of serum.

(6) Blood Culture: Sterile.

(7) Feces and Urine Culture: Negative B. typhosus.

(8) Sputum: Unobtainable.

(9) X-ray: Indicated slight pneumonia in upper lobe left lung, otherwise negative.

Medical Management and Clinical Course: On the second day in the hospital she was given 450 cc. of whole compatible blood. Following this her red count was 2,310,000 per cu. mm., hemoglobin, 45 per cent and leucocyte count, 3000 per cu. mm.

Intravenous fluids were given daily, also concentrated liver extract, five cc. intramuscularly. Adrenalin hydrochloride (1 cc. q. 3 h.) was administered from the first day on.

The temperature remained between 103 and 105.4 degrees with one sudden drop to 99 degrees. The pulse rate varied from 100 to 140 per minute. The respirations varied from 24 to 44 per minute. On the third day of hospitalization moist râles were heard throughout the chest and breath sounds became harsh and exaggerated. A second transfusion of 400 cc. of whole blood was given without any evidence of clinical improvement. Her condition became progressively more serious. Complete coma developed and massive pulmonary edema soon followed. She expired on February 23, the fourth day after admission to the hospital.

The clinical diagnosis made by Dr. Browne in consultation with the laboratory and medical staffs was typhoid fever complicated by aplastic anemia and lobar pneumonia of the upper lobe of the left lung.

A postmortem was granted.

SUMMARY OF POSTMORTEM FINDINGS

External Examination: Body poorly nourished, skin tawny color, depigmented areas of skin over chest and back, no rose spots or petechiae, no superficial lymph nodes palpated, no discharges, pupils equal and regular.

INTERNAL EXAMINATION

Thoracic Cavity: No pleural effusion, some pleural adhesions about lower lobe of right lung. *Right Lung,* (760 gms.) lower lobe consolidated, scattered pneumonic patches in upper lobe. *Left Lung,* (680 gms.) upper lobe consolidated. Consolidated areas have a yellowish gray color on section with a purulent exudate being readily expressed; no infarctions; tracheobronchial lymph nodes enlarged. *Heart,* (240 gms.) no pericarditis, pale flabby myocardium, valves normal. *Aorta,* no atheroma.

Peritoneal Cavity: No ascites, no peritonitis; *Liver* (1550 gms) pale yellowish color with rather indistinct mottling. *Gall-bladder* distended. *Spleen* (150 gms.) fairly firm, deep red color, no peculiar markings. *Ileum* some blood in lower portion, also two elevated irregular bleeding ulcers just proximal to the ileocaecal junction. *Mesenteric lymph nodes* numerous, enlarged and soft with pinkish color. *Pancreas, uterus* and *adnexia, urinary bladder,* all fairly normal. *Right Kidney* (185 gms.). *Left Kidney* (180 gms.), smooth cortical surfaces with many fine petechial hemorrhages apparent, cut sections showing normal architecture with a congested appearance. *Adrenals* swollen with reddish congested appearance.

MICROSCOPIC EXAMINATIONS

Lungs: Many areas of consolidation with purulent alveolar exudate, some areas of pulmonary edema.

Liver: Cells toxic with diffuse degenerative changes, some passive congestion.

Spleen: Reticular structure and lymph follicles fairly prominent, splenic pulp engorged with erythrocytes.

Ileum: Ulcerative lesions with mucosa completely necrotic and sloughing, marked lymphoid hyperplasia in the submucosa causing elevation of the ulcerated areas.

Mesenteric Lymph Nodes: Markedly congested and showing great increase in small mononuclear cells, general architecture maintained.

Kidneys: Cloudy swelling of tubular epithelium and evidence of toxic degenerative changes, marked vascular congestion throughout.

Adrenals: Considerable congestion with some hemorrhage.

Bone Marrow: (Obtained from sternum and a lumbar vertebra) grayish pink color, stained smears showing great scarcity of cells of myelocytic series, small lymphocytes predominating, a few nucleated erythrocytes present, thrombocytes very rare.

BACTERIOLOGICAL INVESTIGATIONS AT AUTOPSY

Gall-bladder Culture: Positive bacillus eberthella typhi, confirmed by fermentation and agglutination reactions. This organism also agglutinated in high dilutions of the patients' own blood serum.

Pulmonary Exudate from Pneumonia Areas: Positive pneumococcus type three.

Summary: A case of typhoid fever complicated by lobar pneumonia and aplastic anemia is presented. The anemia and the marked toxemia were the most apparent features on admission to the hospital. We considered the toxemia to be of infectious origin and also that it in turn was responsible for the anemia. The agglutination tests gave the first laboratory support to the theory that it might be typhoid. The autopsy findings supported the antemortem diagnosis.

It is interesting to point out that here is a case in which a pneumococcic and pyogenic process did not produce a leucocytosis, a query raised by Bullowa.[9] This and a very definite bone marrow aplasia would seem to indicate that the leucopenia of typhoid may not be due entirely to destruction of the leucocytes in the circulating blood as suggested by Gallagher[10] and Dietrich.[2]

The blood picture throughout is that of an aplastic anemia and we prefer to consider it as such and suggest that the severe anemias seen in other typhoid cases are of the same origin and type.

BIBLIOGRAPHY

1. Blankenhorn, M. A.: *Recognition of Typhoid Fever.* Ohio State M. J., 25:626-629, August, 1929.

2. Dietrich, Harry F.: *Typhoid Fever in Children,* J. Ped., 10:191-201, February, 1937.

3. Simmonds, E. G.: *Unusual Clues to the Diagnosis of Typhoid Fever.* Can. Med. Assoc. J., 28:382-385, April, 1933.

4. Bopp, Walter F.: *Typhoid Fever in Children. A Problem in Diagnosis,* Arch. Ped., 53:777-783, December, 1936.

5. Futcher, Thos. B.: *The Symptomatology, Clinical Course and Complications of Typhoid Fever.* The Altantic M. J., 28:333-338, March, 1925.

6. Thorp, Eustace: *Further Remarks on Enteric and the Widal Test.* Lancet, 1:1235, June 7, 1930.

7. Pierret, Hadour and Huchard: *Syndrome Agranulocytose avec Anemie Grave—Origine Eberthienne Probable,* L'Echo Medical Du Nord, 2:565-567, November 26, 1932.

8. Nanu-Muscel, Ionnesco, D., and Valter, V.: *Sur un Cas d'anemie pernicieuse compliquee de septicemie colibacillaire et de fievre typhoide.* Le Sang, 5:676-684, 1931.

9. Bullowa, Jesse G. M.: *Typhoid Fever with Chills, Fever and Sweats. Typhoid Abscess in the Rectus Abdominis Sheath. Typhoid Pulmonary Involvement. Recovery.* Med. Cl. N. Am., 10:955-958, January, 1927.

10. Gallagher, J. R.: *The Non-filament Polymorphonuclear Count in Typhoid and Undulant Fever.* Amer. J. M. Sc., 185:391-394, March, 1933.

ATHLETIC PRECAUTIONS

The average high school does not take the necessary precautions to maintain safe and healthful surroundings for its athletes in spite of increased attention to public health and the many developments in medical and sanitary fields which are common knowledge. This fact was revealed in a study recently conducted by C. O. Jackson among 72 per cent of the accredited high schools in Illinois.

A report of this survey is contained in Professor Jackson's article entitled "Clean Sports—A New Angle" in the November *Hygeia.* He finds that the average high school is particularly negligent in the care of gymnasiums, showers and locker-rooms.

TREATMENT OF PYELITIS WITH SULFANILAMIDE

(Case Reports)

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No chemotherapeutic drug in the past decade has excited so much attention and scientific interest as sulfanilamide.

In the past six months it has been used in a large number of conditions and its therapeutic value in the treatment of streptococcic infections and its merits in the treatment of pneumococcic and meningococcal infections have well been presented through the work of Long and Bliss[1] and Schwentker, Gelman and Long.[2]

Dees and Colston[3] carefully observed 47 cases in which patients with gonorrheal infections were successfully treated with this drug.

German clinicians were the first to use prontosil in the treatment of urinary infections. Helmholz[4] has shown that sulfanilamide exerts bactericidal action on all of the common bacteria found in the infections of the genitourinary tract with the exception of the streptococcus fecalis. Its bactericidal action is effective in urine of acid or alkaline reaction, but apparently more active in a urine which is alkaline.

The drug is excreted by the kidneys in both its free and conjugated forms, both of which have bactericidal and bacteriostatic action.

Fuller's[5] research was devoted to determining the amount of benzine sulphonamide excreted in the urine following administration by mouth. This showed that human beings excreted about one-half of the total in a conjugated form—para-acetylamino-benzine sulphonamide, the average figure being about fifty-five per cent. The concentration of free sulphonamide in urine varied from 0.13 per cent to 0.4 per cent.

The action of the drug on specific microorganisms, as well as its low toxicity differentiates it from other antiseptics which are generally classed as protoplasmic poisons. The three substances, methenamine, mandelic acid and beta-oxybutyric acid, the potent factor of the well known ketogenic diet, as urinary antiseptics are well known to all of us. Their action is dependent on certain degrees of acidity of the urine. The ketogenic diet not infrequently produces nausea and vomiting.

In general sulfanilamide is well tolerated, as might well be expected from its low degree of toxicity as revealed in animal experiments. Nausea, slight dizziness, tinnitus and cyanosis have been observed after several doses of the tablets. These symptoms are transient and rarely interfere with the treatment instituted. Cyanosis, resulting from development of a sulphemoglobinemia, disappears after the discontinuance of the drug or reducing its dose.

The drug[6] is rapidly absorbed from the gastrointestinal tract, the process being usually or nearly complete in four hours. Its ease of administration, as compared to other urinary antiseptics, namely mandelic acid or the ketogenic diet, provides a pleasant and economic therapeutic agent. In the following consecutive cases which were admitted for treatment, we feel that sulfanilamide therapy has produced satisfactory results.

CASE REPORTS

Case 1: Child, sixteen months of age, was admitted to the hospital on July 3, 1937 with a history that she had been running a low grade temperature for the past week to ten days and that her urine specimen had shown

much pus, which had not cleared up with methanamine and alkaline therapy. The general examination was essentially negative. Temperature 104 by rectum. Urine specimen July 5, 1937 showed albumin two plus; alkaline reaction; 50-60 pus cells per hpf and 4-5 blood cells per hpf. Blood: Hemoglobin 54 per cent; red cells 2,960,000 per cmm., white cells 23,600 per cmm., polys 63 per cent; S, 31 per cent; L, six per cent. Gram stain of centrifuged specimen was done and revealed Gram negative bacilli, which were believed to be B. coli. No culture was made. In view of her secondary anemia she was given a blood transfusion consisting of 75 cc. of citrated blood. She was put on sulfanilamide tablets, grains five every four hours for three days and on July 8, 1937 temperature was 98 to 99 per rectum. Urine was found to be acid reaction; albumin two plus; 25-30 pus cells per hpf; 1-2 red blood cells per hpf. The drug was stopped at this point because of vomiting. On July 10, 1937 urine specimen showed alkaline reaction; rare pus cell. This patient reported back August 21, 1937 at which time she was referred because of injury to right wrist and at this time the mother stated that the child had been symptom free and urine had been checked by family physician one week after discharge from the hospital and reported negative.

Case 2: Boy, 12 years of age, reported to the hospital August 19, 1937, complaining of pain in the lumbar region for the past two weeks. He stated that this pain appeared to be more marked on the left, associated with chills and fever. No history of nausea or vomiting. He complained of burning and stinging on urination. Examination was essentially negative, except temperature 100, and some tenderness over both kidney regions, more marked on the left. Urine was found to be acid reaction; albumin one plus and as reported by the technician field solid with pus cells; 3-4 red blood cells per hpf. Smear of pus revealed Gram negative bacilli present which were probably B. coli. The mother was given a prescription for twelve prontylin tablets, grains five, and instructed to have the boy take one four times daily and return in four or five days for check-up; also to force fluids, especially citrus fluids. He returned to the hospital August 24, 1937 and the urine was acid in reaction, negative for alubumin with 4-5 pus and 1-2 red blood cells per hpf. The child stated that he was feeling better; had no urinary complaint; appetite was good; temperature 98.

Case 3: Female, white, 42 years of age, admitted to the hospital July 24, 1937. Urine on admission showed acid reaction; trace of albumin; 40-45 pus cells and 8-10 blood cells per hpf. She was put on neosilvol bladder instillations five per cent and serenium tablets one three times daily. July 31, 1937 urine was alkaline reaction; negative for albumin and 75-100 pus cells per hpf; occasional clump of pus, and 14-15 red blood cells per hpf. She was put on urotropin tablets seven and one-half grains every four hours with bladder irriations continued. August 4, 1937 urine was acid reaction; 150-200 pus cells per hpf; two plus albumin and 2-3 blood cells per hpf. On August 4, 1937 urine swear showed many Gram negative bacilli, which were considered to be B. coli. On August 5, 1937 patient was put on sulfanilamide tablets three, grains five, every four hours, receiving doses at 8, 12, 4 and 8 o'clock. On August 8, 1937 sulfanilamide tablets were discontinued. Urine August 8, 1937 revealed acid reaction; trace of albumin; 8-10 pus cells per hpf. She was discharged August 12, 1937 symptom free.

Case 4: Male, aged 57 years, was admitted June 23, 1937, stating that the day before admission he suddenly became acutely ill with pain in the left side, followed by chills. Since then he has continued to run temperature and have pain in the right side, associated with nausea and vomiting. Physical examination revealed an acutely ill, white male, with rather marked tenderness over left kidney region; temperature 102, and during his stay in the hospital he had two chills. Temperature varied between 99 and

106. Blood: White cells 16,200 per cmm., polys 78 per cent; L, 20 per cent. Urine, June 24, 1937 (voided) showed three plus albumin; 220-225 pus cells and 25-30 red blood cells per hpf. He was cystoscoped July 6, 1937 and left kidney specimen showed 250-260 pus cells per hpf; and right kidney specimen showed 8-10 pus cells per hpf. X-ray examination of genitourinary tract following skiodan injections was essentially negative. He was discharged from the hospital August 8, 1937, at which time his temperature had been normal for the past week and his general condition was improved. Patient was readmitted to this hospital August 23, 1937 with complaint of pain over left kidney, chills and fever; temperature 101.2, at which time urine (voided) specimen was acid reaction; two plus albumin and 200-250 pus cells per hpf; 1-2 red blood cells per hpf. August 24, 1937 urine specimen showed acid reaction; two plus albumin; 300-350 pus cells per hpf; 6-8 red blood cells per hpf. Urine smear showed many Gram negative bacilli present that were probably B. coli. He was put on sulfanilamide, three five grain tablets, every three or four hours for two days. On August 27, 1937 urine specimen was reported acid reaction; albumin negative; 7-8 pus, 2-3 red blood cells per hpf and many bacteria. The patient was symptom free; temperature was 98. He was discharged from the hospital symptom free. Temperature promptly subsided with the institution of sulfanilamide therapy.

Case 5: Colored female, 19 years of age, admitted to the hospital July 15, 1937, with a diagnosis of pelvic inflammatory disease. On admission urine was alkaline; negative for albumin; 6-8 pus cells and 2-3 blood cells per hpf. She was operated upon under general anesthesia July 12, 1937 and appendectomy with bilateral salpingo-oophorectomy was done. She had an uncomplicated convalescence and was discharged from the hospital the 10th day postoperative, improved. She was readmitted to the hospital August 8, 1937 at which time she was complaining of pain over right kidney, of four days' duration, with nausea and vomiting, chills, frequent and burning urination. Examination revealed definite tenderness over right kidney region; temperature 100. Urine specimen showed acid reaction; one plus albumin; 75-100 pus cells and 8-10 red blood cells per hpf. She was put on sulfanilamide tablets three every four hours for two days and then one tablet three times daily and on August 12, 1937 urine (cath) showed acid reaction; 4-5 pus and 1-2 red blood cells per hpf. Patient was clinically improved, temperature normal and she was discharged from the hospital improved August 13, 1937.

Case 6: White female, aged 34, admitted to the hospital August 17, 1937. On August 20, 1937 under general anesthesia she was operated upon; cauterization of cervix, appendectomy and bilateral salpingo-oophorectomy were done, necessitating one cigarette drain. August 18, 1937 urine (cath) was acid reaction; albumin negative; occasional pus and occasional blood cell per hpf. Patient developed postoperative pyelitis and on August 27, 1937 urine (cath) was reported alkaline reaction; plus two albumin; 150-175 pus cells per hpf; 17-18 red blood cells per hpf. Temperature at this time was 100. She was put on sulfanilamide grains 10 every four hours for two days and then grains five, three times daily for two days. Patient developed a slight cyanosis. Due to the cyanosis two days after institution of sulfanilamide, therapy was discontinued because of the progressing cyanosis and on this day urine (cath) was reported alkaline reaction; two plus albumin; 10-15 pus and 3-4 blood cells per hpf. Temperature was reported 99.2. Urine (cath) September 3, 1937 revealed albumin negative; alkaline reaction; no pus and no blood cells. Patient was symptom free and discharged September 4, 1937.

Case 7: Patient, 65 years of age, white, female, dates her urinary complaints back to 1935, at which time she was admitted to this hospital and stricture of urethra dilated. She was readmitted several months later, again

for urinary complaint. Urine (cath) specimen was found to be loaded with pus cells. Patient reported to this hospital August 18, 1937, stating that she had pain over both kidney regions, which she described as "dull aching" for the past five or six months, and complained of dysuria and nocturia. Urine (cath) revealed acid reaction; albumin negative; 100-125 pus cells and 3-4 red blood cells per hpf. (August 18, 1937). In view of the patient's past history (urinary stricture) it was deemed advisable to attempt to dilate the stricture, but the patient refused to have any operative procedure and she was given prescription for sulfanilamide tablets with instructions to take three tablets every four hours for two days and then two tablets three times daily. She returned to the hospital August 21, 1937 and urine (cath) was found to be alkaline reaction, no pus, no blood cells and patient was symptom free.

Summary: Seven consecutive cases are reported in which we believe sulfanilamide therapy produced definite therapeutic results, in the treatment of pyelitis. Two of these cases are children with acute infection, one of which according to the family physician failed to respond to methananmine and alkaline therapy. Three cases of chronic infection and two cases of postoperative infection promptly cleared up with the institution of sulfanilamide treatment when other forms of therapy had failed. One case developed a cyanosis which promptly disappeared with the cessation of the drug. The drug was just as effective in a urine of acid reaction as it was in a urine of alkaline reaction.

Stevens Clinic Hospital

BIBLIOGRAPHY

1. Long, P. H. & Bliss, E. A.: Southern Medical Journal, Vol. 30, 479, May, 1937.

2. Schwentker, F. and Gelman, Sidney, Long, P. M.: Journal A. M. A. 108; 1407, April 24, 1937.

3. Dees, J. E. and Colston, J. A. C.: Journal A. M. A. 108; 1855, May, 1937.

4. Helmholz, H. F. J.: Pediatrics, Vol. 11: 243, August, 1937.

5. Fuller, A. and Lancet, 1:194, Jan. 23, 1937.

6. Marshall, E. K. et al: Journal A. M. A., Vol. 108: 953, March 20, 1937.

ALUM PRECIPITATED (ONE DOSE) TOXOID

A Study of the Permanency of Immunity

By A. M. PRICE, M. D., *Charleston, W. Va.*
and J. L. BLANTON, M. D., *Fairmont, W. Va.*

THE appearance of several articles recently questioning the permanency of immunity following the use of alum precipitated toxoid leads us to investigate our results in West Virginia.

Before alum precipitated toxoid was released through the State Department of Health for general use in West Virginia, it was felt that some experimental work should be done in order to be sure that we could expect a high percentage of immunity against diphtheria from the use of this immunizing agent. Accordingly, on November 20, 1933, a member of the State Department of Health went to Logan County and there Schick tested 787 graded school children, using Gilliland's Schick test material. The Schick tests were read on November 23, 1933, and out of this group, there were 190 Schick positive reactors who were willing to be inoculated with the alum precipitated toxoid. One-half cc. of Sharp & Dohme's alum precipiated toxoid was administered to each child. precipitated

Eight weeks later, on January 18, 1934, 150 of this group were reSchicked. The remaining 40 who were inoculated on November 23, either refused to be Schick tested or were absent. Of the 150 tested, seven were found to be positive and 143 negative, giving a 95.4 per cent effectiveness at the end of eight weeks.

In view of these statistics, and also because

our results compared favorably with results reported from other sections of the country, the State Department of Health felt justified in releasing the product for general use. Therefore, on February 1, 1934, alum precipitated toxoid was made available to all county health officers and physicians in West Virginia. Since that time we have had no complaints that the product did not give the immunity expected. There have been several complaints about reactions and abscess formation in the older age groups, but in most instances these have been due to poor selection of cases and poor technique.

In recent months, a general feeling has developed among practicing physicians that the immunity established by this product is not permanent. However, no scientific data has been submitted to the State Department of Health to substantiate this belief. Inquiries have been made to various health departments, and with the exception of the reports from Dr. Park of the New York City Health Department and Dr. Jirka of the Illinois State Health Department, all have replied that the product has been satisfactory and that it is believed the immunity is permanent in about the same percentage of cases as from the use of the plain (Ramon) toxoid.

However, in order to assure ourselves of this fact and to re-establish the confidence of the physicians of the state, it was thought wise to retest as many as possible of this group mentioned above who were given the alum precipitated toxoid over three and one-half years ago, and as many others as possible. With the help of the Logan County Health Unit personnel, it was possible to locate 83 of the 150 children who were Schick-negative over three years ago and these were retested, using the Gilliland's Schick test material. Out of the 83, only three (3.6 per cent) showed a positive reaction.

Schick-positive children, one dose toxoid: 150. Schick tests eight weeks later, November 23, 1933: Seven positive, 143 negative.

Schick-negative children (from above group of 143): 83. ReShicked three and one-half years later: Three positive, 80 negative.

The above report represented the results with a group of school children. It was also desirable to determine the efficiency of the product when used on pre-school children. Consequently, one of us investigated the permanency of immunity among this group. It had been previously determined that 100 consecutive cases, the majority of whom had been immunized between six months and two years of age, gave 94 per cent immunity when tested six months to one year after the administration of the alum precipitated toxoid. Of this group, 35 who were Schick negative at least two years ago, were retested and 33 were negative and two were positive. Six per cent had lost their immunity. This compares favorably with the results among the group of school children.

Pre-school children: 100. Immunizing agent: One dose toxoid. Schick tests six to 12 months later: Six positive, 94 negative.

Group negative two years ago: 35. Re-Schicked after two years: Two positive, 33 negative.

With the assistance of the clinic committee of the Fairmont Junior League, a group of 73 pre-school children, the majority being immunized before one year of age, were rounded up from the Junior League Well Baby Clinic and were Schick tested two years or more after receiving the one dose alum toxoid. Fifty-eight were negative and 15 were positive, giving 80 per cent immunity for this group. It was impossible at all times to keep the toxoid used for this group on ice and this might explain the lower percentage of immunity among this clinic group.

Pre-school clinic cases: 73. Immunizing agent: One dose toxoid. Schick tests two years after: 15 positive, 58 negative.

Summary: A combined group of 118 children who were known to be Schick negative from two to three and one-half years after receiving the alum precipitated toxoid were retested and six had lost their immunity.

This gives a failure of five per cent, which compares favorably with results from the use of any other immunizing agent in diphtheria. Another group from a well baby clinic gave 80 per cent immunity after two years. We may conclude that alum precipitated toxoid will immunize 80 to 90 per cent of children for a period of 2 to 3 and one-half years.

THE USE OF DIURETICS IN EDEMA*

By R. J. SNIDER, M. D.
Wheeling, W. Va.

IT IS well understood that in the treatment of edema it is first essential that the cause of the condition be determined. The common diseases in which edema is a symptom are:

1. Congestive heart failure.
2. Anemia.
3. Nephritis.
4. Venous obstruction as in phlebitis or tumor.
5. Varicose veins.
6. Edema of the aged.

This last is perhaps due to an insufficiency of protein in the diet. In the Russian famine of post-war days relief was given only to those who presented marked loss of weight. Those having edema of malnutrition were erroneously believed to be well enough nourished to preclude the necessity of additional food.

In this paper, it is my intention to discuss briefly the use of diuretics in congestive heart failure only. But let me first remind you that it is advisable to use mechanical measures for relief of accumulated fluid. Paracentesis should be resorted to at once if hydrothorax or ascites are marked and of themselves causing respiratory embarrassment. Digitalization of the patient should also be immediately commenced and this measure alone is frequently sufficient to remove the edematous fluid. An error of mine may illustrate this. A woman aged 61 years, with diabetes and generalized arteriosclerosis had had an amputation of the leg performed seven months previously because of diabetic gangrene. There were no signs of cardiac failure at that time. The present complaint was of dysuria and of swelling of the stump and of the left leg. She had cystitis, ptosis of the right kidney and pyelitis. She had made no effort to walk following the amputation but remained in bed. She was not dyspneic and the pulse rate varied between 84 and 84 per minute with a regular rhythm. An effort was made to reduce the edema with diuretic drugs and limited fluid intake with very little success. The patient was then digitalized with prompt diuresis and relief of the swelling.

In cases not relieved by rest and digitalis diuretic drugs should be employed and I prefer trial of the older remedies first. Theobromine sodium salicylate (diuretin) if given in large doses often gives good results. 2.0 grams four times a day for two days is not an excessive dose. Theophylline 0.3 gm. four times a day may be substituted for this. If digitalis and the purine drugs do not give relief, resort should be had to the mercurial diuretics. The use of calomel as a diuretic came into vogue fifty years ago but this was an unsatisfactory drug because of the excessive diarrhea which it caused. No real success in the use of mercury as a diuretic was obtained until the organic mercury compound merbaphen was introduced in 1920. This was followed shortly by the less toxic mersalyl (or salyrgan) and since then the use of this drug has become an established practice.

The exact pharmacological action of these drugs is unknown but they certainly have a direct renal effect, probably an inhibition of

*Read before the W. Va. Heart Association at Clarksburg, May 24, 1937.

tubular reabsorption of water and chlorides. The diuretic effect of these mercury compounds is enhanced if their use is combined with an acid forming salt such as ammonium chloride or ammonium nitrate. Keith and his associates have demonstrated that potassium nitrate, which is not so toxic as the acid-producing salts will give as good an effect if used in adequate dosage. The dose of this is 12.0 gms. daily, given in enteric coated pills of 0.5 gm. each and started several days before the injection of the mercury compound.

It is probable that dilute hydrochloric acid has the same effect as these salts. Lashmet and Newburgh have shown the value of the acid radical in nephritis. By placing their patients on a neutral diet, that is one balanced in acid and base radicals, and with the addition of six cc. of dilute hydrochloric acid (USP) per day, they obtained a reduction in the edema, and just as much relief was observed when 4500 cc. of fluid were allowed in 24 hours as when the fluid intake was limited to 1500 cc.

FIGURE 1. Mrs. S. Contracted kidney: weight 80 gms. Arterio sclerotic kidney.

I do not hesitate to use these mercury compounds for fear of renal complications. Mrs. S., aged 39 years had hypertension, nephritis and general anasarca. Ammonium chloride by mouth and salyrgan intravenously and mercupurin by rectum were all employed with a marked reduction of the edema and greatly increased comfort of the patient. She died several weeks later with acute pulmonary edema and at autopsy there was demonstrated a severe kidney disease. In the gross the kidney was small weighing only 80 grams. There was marked intimal sclerosis of all arteries and the glomeruli had been nearly all destroyed to be replaced by fibrous tissue.

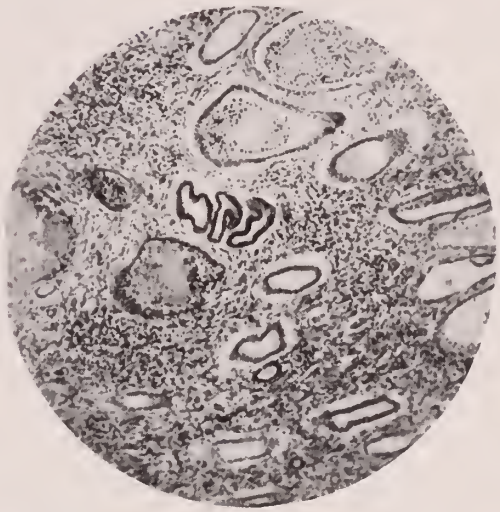

FIGURE 2. Mrs. S. Absence of glomeruli. Destruction of tubules with round cell infiltration. Hyaline and cellular casts in dilated tubules. Nest of newly formed tubules. No evidence of mercurialism.

Only 12 glomeruli were counted in a section one cm. square. There was marked inflammatory reaction as evidenced by the degeneration of the tubular epithelium and by hyaline and cellular casts deposited in the tubules, but there was no evidence of mercury poisoning (there were no calcareous deposits) and I am satisfied that the mercury did not aggravate the kidney disease. (See Figures 1 and 2). The method of choice in administering a mercurial diuretic is by vein, two cc. diluted with saline solution repeated, if desired, in four or five days. If the veins are small and extravastion is likely to occur it is better to use the preparation intramuscularly. If given deeply into the gluteal or deltoid muscles there is little or no local reaction.

I suggest giving the drug in the morning in order that the greatest diuresis may occur during the daylight hours and not interfere with the night rest.

PRESIDENT'S PAGE

In this, my last official monthly message to my fellow practitioners and colleagues in organized medicine I desire to express my profound appreciation for the sympathetic understanding and cooperation which has been accorded me during my term as your President, and to bespeak for my successor, Dr. C. W. Waddell, of Marion County, a pleasant and prosperous period of tenure which will be particularly marked, I hope, by harmony and militant campaigning for the principles and ethics traditionally inherent in our profession.

Nothing has impressed me quite as much during the past year as the fact that state-wide organized medicine can be only as strong and forceful as are its component societies. May the coming year mark the rise of capable leadership in every component county society, and the end of intra-society friction such as has, unfortunately, obtained in some of our larger component groups. Localized problems and differences arising out of their intrusion into the affairs of our county societies must not be permitted to grow in such proportion that the common good will be held in jeopardy. The medical profession in our State and Nation is facing a crisis. Let us be united here in West Virginia that we may better be prepared to join with organized medicine throughout our country in defense of our professional traditions, and in promoting happier, healthier conditions for our fellow men.

Exacting and responsible though the duties imposed upon me as your President have been, I have enjoyed working for and with you. Particularly pleasant have been my visits with the several county societies during the past year. They have afforded me a full measure of opportunity to better acquaint myself with the type of manhood and womanhood which will carry on successfully, I am sure, the traditions of our profession.

I desire to assure my colleagues, however, that although this is my valedictory as your President, I am not yet ready to serve as valedictorian for organized medicine, for my interest and efforts in behalf of a sustaining organization will be continuous.

President.

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EMPLOYING NON-GRADUATES

Not so many years ago the custom was prevalent in southern West Virginia for overworked mine physicians to employ second and third year medical students to help them out during the summer months. Fortunately this practice has just about died out. However, occasional complaints still come in to the Association headquarters in this regard.

Undoubtedly, medical students can gain valuable experience by associating themselves with established physicians during the summer months. Nor can we find any logical reason why an established physician should not occasionally take a medical student under his wing for observation and preliminary training. Arrangements of this sort are advantageous to both parties involved, but only so long as the student remains under the direct supervision of the physician.

When a medical student, working in the mine fields or elsewhere, is removed from the guiding influence of his preceptor, he takes on an entirely different status from that described in the preceding paragraph. When he is left alone in charge of his preceptor's office, when he is sent alone to make calls and diagnose and treat human ailments, then he is practicing medicine without a license and is subject to vigorous prosecution. We have even heard, in rare instances, of mine physicians leaving on vacations for periods of two weeks or more and allowing medical students to handle their patients during their absences. That is the extreme example of an abuse which, fortunately, is no longer prevalent in this state.

While the legal aspects of this discussion are important, they are not so important as the relationship of physician-patient. It is manifestly unfair to subject any ill patient to the ministrations of a second or third year medical student; unfair to both the patient and to the embryo physician. The patient expects and is usually paying for more expert service. The student is subjecting himself to prosecution that might mar his entire professional career. And the doctor in charge, who has perpetrated the act, is laying himself liable to action for malpractice.

There are plenty of young licensed physicians in West Virginia to meet the demand for medical service and medical assistance in our mining areas. The increase in the number of younger doctors in the state is, no doubt, the reason why the above-mentioned abuse is minimal. We hope it will soon die out entirely.

STUDENTS HONOR WEST VIRGINIA

For years West Virginia has contributed outstanding students to the campus life of our American colleges and universities. Almost every field of campus activity in almost every eastern college has found at one time or another, a West Virginian at its head. During the present scholastic term we read of the exploits of Condit of Carnegie Tech, Goldberg of Pitt, Zontini of Notre Dame and many others.

While our athletic warriors have brought renown to West Virginia, the palm for West Virginia campus honors must go to the Medical College of Virginia, which is the alma mater of so many of our Association members. There the roster of class officers reads like the year book of Marshall College or West Virginia University. Here they are:

Freshman class president, W. W. Huffman, Webster Springs; Sophomore class president, C. M. Scott, Bluefield; Junior

class president, J. B. Thompson, Mount Hope; Senior class president, John T. Jarrett, Dunbar.

In addition to the medical class officers listed above, the president of the Junior Pharmacy Class is Walden H. Cook, Mullens, and the president of the Senior Dental Class is F. H. Brown, Summersville.

If West Virginia wants a full four year medical college, this might be an opportune time to unfurl our state flag over McGuire Hall and claim the Medical College of Virginia for the Mountaineers.

THE 430 DOCTORS

Whatever else might be said about our American system of medical practice, it is featured by sincerity and simplicity. In this age of crackpot idealism, the practice of American medicine is one of the few things that has remained intact; unyielding to the socialistic demands of our parlor pinks. It is therefore discomforting, although not strange, that a self-appointed "Committee of Physicians," consisting of some 430 doctors from different states has decided to wipe out our traditions and march down the primrose path of idealism.

Somehow we can not get quite as steamed up over our self-appointed medical brain trusters as the *New York Times*. That great American daily, on November 7, headlined the Committee of Physicians as the turning point in the battle against socialized medicine. *The Times* news story, slightly editorialized, makes much of the fact that this new attack upon American medicine comes from the doctors themselves. We feel that if the Committee of Physicians, after months of preparation, was able to secure only 430 signatures from medical men, it certainly cannot amount to a great deal. You could secure more medical signatures than that on a petition to free Al Capone.

For the past several years we have all witnessed an era of brain trusting idealism. On every hand we find "idea" men ready and waiting to add to the already enormous complexities of our modern civilization. Pressure groups have changed everything but the law of nature and they are working on that now.

Our American idealists of the present day seem to have lost sight of the fact that Utopia is based upon simplicity. Our proposed American Utopia is apparently cut from a different pattern. It is based upon ideas so complex that even the newspaper columnists have some difficulty in explaining the new order.

It must be that our American system of medical practice, based upon the traditional family doctor-patient relationship, is a bit too simple and much too sincere. The proposed medical Utopia would introduce not one, but perhaps half a dozen intermediaries between the doctor and his patient to see that every job was well done. An army of accountants would be brought into the picture to see that every patient got his money's worth. A corps of investigators would be introduced to make sure that our modern medical Utopia was not being ravished. The idea behind all this seems to be a desire to reduce the cost of medical service, and our medical revolutionists are going to do that if it costs billions.

The time has arrived for all common-sense medical men to keep both feet on the ground and to think along lines that are straight and clear. Doctors should not be misled by the fantastic promises of socialized medicine. If all the world goes crazy, the doctors, more than any other group, should stay sane.

The House of Delegates of the American Medical Association is the true voice of the medical profession. It is made up of representative doctors chosen from the various states. These doctors are selected in the various states by duly elected representatives of all the various county medical societies. If the A. M. A. House of Delegates is not the true voice of medicine, then the Congress of the United States is not the true voice of the American people.

Our reason for the above paragraph is to point out once more to our members that

protests and complaints, if any exist, should be taken up through regular Association channels and not through independent newspaper publicity. To follow the latter course is to weaken the only organization that stands between the profession and bureaucracy. We are rather proud of the fact that the names of West Virginia doctors were conspicuously absent from the original list of the 430 physicians.

On the list of the Committee of Physicians appear the names of a number of nationally known medical men. Big names attract little names, so the list may grow. We feel that the entire membership of this committee should be ashamed of themselves. But just because they do not know any better and because they have gone off at a tangent is all the more reason why the rest of us should keep our heads.

DECEMBER COUNCIL MEETING

The annual "year-end" meeting of the Association Council will be held at the Association headquarters in the Public Library building, Charleston, on December 16 at 10:30 o'clock. Many important Association matters will be up for discussion and plans for the coming year will be made.

Association members who are interested in any particular phase of our economic problems or who have any other matters which they wish to present for official consideration should get in touch with the headquarters office at once. All such matters should be in the hands of the executive secretary not later than December 10, so that they can be included in the Council's agenda.

TUBERCULOSIS ABSTRACTS MISSING

For the first time in more than five years the JOURNAL was unable to secure the monthly Tuberculosis Abstracts for the December issue. The December abstracts were made up almost entirely of illustrations, which were not available for reproduction. Reprints of the illustrated December abstracts may be obtained through the West Virginia Tuberculosis Association at Charleston. Copies will be distributed to physicians by field nurses and the various county committees. The December abstracts deal with the tuberculin test.

TWENTY-FIVE YEARS AGO

(From the W. Va. Medical Journal, December, 1912)

Original articles in this month's JOURNAL were presented by Dr. T. W. Moore, Dr. O. D. Barker and Dr. M. V. Godbey.

Some titles chosen for the editorials this month are "The Protection Against the Venereal Peril," "Mechanistic Biology, The Awakening of Life By Artificial Stimuli," "Tuberculosis Among the Indians" and "Modified Milk in Infant Feeding."

The editorial first mentioned is on the subject of Utah's State Medical Association's advanced stand on the venereal question. The Association favored a law to the effect that all applicants for marriage licenses must present a certificate sworn to by a licensed physician, who shall state that he has applied the recognized clinical and laboratory tests of scientific medicine.

"In 1911 Utah passed a law requiring the notification of venereal diseases. The basis of this law has been known as the 'Utah Plan' and has been adopted by several of our eastern states. We can only hope and pray that the next session of the West Virginia Medical Association will profit by this example and that some of our legislators next winter will consult medical authorities and start similar legislation in our state."

The editorial concerning tuberculosis among Indians tells of a former member of the State Association, Dr. John N. Alley, who almost single-handed started a campaign against the disease which had so ravaged the Indians. After much discouragement, the government finally gave his work recognition and appropriated funds for a sanitarium where these wards of the nation could be properly treated.

STATE NEWS

Dr. Rolla Camden, of Parkersburg, is in Philadelphia for postgraduate work, after which he will locate in Washington City, and will specialize in diseases of the intestines and rectal surgery. He will be missed and his friends hope that success will result from the change. (Dr. Camden is now located in Parkersburg where he has been practicing for many years.)

Dr. H. D. Price, Dr. W. S. Keever and Dr. G. D. Jeffers of Parkersburg, attended the surgical clinics in New York last month, and are remaining for some time at postgraduate work.

* * * *

THE CABELL COUNTY SOCIETY

Huntington, W. Va.
November 15th, 1912

Dr. S. L. Jepson
81 Twelfth St.,
Wheeling, W. Va.

Dear Doctor Jepson: — The regular monthly meeting of this society was held last night at the Hotel Frederick. The evening's work consisted of the presentation of a patient by Dr. Moore and case reports by various other members present.

Dr. G. B. O'Roark, of Huntington, was elected to membership and the applications of Drs. H. A. Barbee, Pt. Pleasant; J. W. Rife, of Kenova, and A. U. Tieche, of Huntington, were presented.

Fraternally yours,
Jas. R. Bloss, Secretary.

OBITUARIES

DR. BEN W. BIRD

Dr. Ben W. Bird of Princeton, prominent Mercer county physician and an honorary member of the West Virginia State Medical Association, died at his home on November 4, 1937. He was 59 years of age. Dr. Bird suffered a paralytic stroke several years ago but had sufficiently recovered to resume his practice.

Dr. Bird was born at Elgood, West Virginia, on September 6, 1878. He received his academic education at Concord Normal College, Athens. He then entered Maryland Medical College, Baltimore, graduating in medicine in 1904. He was licensed in West Virginia the same year and practiced for more than 30 years in Mercer county.

H. K. MULFORD

Dr. Henry Kendall Mulford, founder of the H. K. Mulford Company and one of the pioneers in American pharmacy, died on October 15, 1937, in his 71st year. At the time of his death he was director of Research and Biological Laboratories of the National Drug Company. Mr. Mulford was a graduate in pharmacy from the Philadelphia College of Pharmacy. The degree of Master of Science was conferred upon him by Lafayette College in 1918 while his alma mater conferred the degree of Master of Pharmacy in 1933.

Mr. Mulford was widely known in medical circles throughout the country. He was a member of the American Pharmaceutical Association, American Drug Manufacturers Association, American Pharmaceutical Manufacturers Association, American Chemical Society, the Franklin Institute and the Union League.

DR. HARRY A. ROSENTHAL

Dr. Harry A. Rosenthal, 62, died November 12, 1937, at Clarksburg, of a heart attack. He had been ill for approximately three weeks. He is survived by his widow, one son, H. A. Rosenthal, Jr., and a brother.

Dr. Rosenthal was born in Martins Ferry, Ohio, on the 13th day of February, 1876. He was educated in the public schools of that city and later attended the College of Physicians and Surgeons, Baltimore, where he was graduated in 1902. He was located in Bridgeport, Ohio, before coming to Clarksburg.

Dr. Rosenthal has been physician for more than 20 years for the Dawson Coal Company and the Consolidation Coal Company. He was a member of his county society, the State Medical Association and the American Medical Association.

DR. S. L. CHERRY

Dr. Solomon I. Cherry, 50, of Clarksburg, died October 21, 1937, of hypertensive heart disease. He had been ill since last January.

A native of Poland, Russia, Dr. Cherry came to America in 1890 with his parents at the age of three years and attended Philadelphia and Baltimore public schools. He was graduated at Baltimore City Medical College in 1904 and continued his work at the University of Maryland until 1908. He served his interneship at Bayview, Md., Hospital and later went to Mt. Sinai. Until a year before his death Dr. Cherry was in charge of the laboratories at St. Mary's Hospital, having come there in 1918 from Mt. Sinai Hospital, Philadelphia.

His record in medicine was distinguished. He served the Harrison County Medical Society as president and secretary, was a member of the Catholic Hospital Association, the West Virginia State Med-

ical Association, the Southern Medical Association and the American Society of Clinical Pathologists. He was a member of many civic and fraternal organizations. He served in 1917 and 1918 as an advisory member of the war-time draft board. As captain in the medical corps in 1918 and 1919, he went to France, and was officer in charge of laboratory in Evacuation Hospital No. 24.

He served as bacteriologist for the Clarksburg City Health Department, as a laboratory specialist for the United States Veterans' Bureau and was secretary of the Medical Advisory Board of St. Mary's Hospital, Clarksburg.

Always a scholar, Dr. Cherry took many postgraduate courses, attending many clinics of the late Dr. J. C. Bloodgood.

Surviving Dr. Cherry are his wife and two sons.

COUNTY SOCIETY NEWS

CABELL COUNTY

The Cabell County Medical Society held its annual election of officers for the coming year at their meeting at the Hotel Pritchard, Huntington, October 14. The guest speaker of the evening was Dr. R. A. Ramsey of Columbus, Ohio, who gave an interesting lecture on "The Diagnostic Criteria of Hypo and Hyper Thyroidism."

New officers elected by the society were Dr. Walter C. Swann, president; Dr. W. M. Rowley, vice president; Dr. Boyd F. Brown, secretary, and Dr. Edwin Humphrey, treasurer.

Dr. E. A. Merritt, Washington, D. C., was the guest speaker at the meeting of the Cabell County Medical Society, November 11, which was held in connection with the formal opening of the new Huntington Radium and X-ray Clinic. The clinic opening was held at the Memorial Hospital annex from three until five o'clock and was followed by a dinner at 6:30 o'clock.

Dr. Merritt's subject was "Preoperative Radiation as a Therapeutic and Diagnostic Measure." Discussion on his paper was opened by Dr. Henry Schmitz of Mercy Hospital, Chicago. A scientific motion picture on radium followed the lecture and discussion.

The Huntington Radium and X-ray Clinic was organized in 1921 and is directed by Dr. J. Edward Hubbard and Dr. W. Backett Martin.

CHAUNCEY B. WRIGHT, *Secretary*.

FAYETTE COUNTY

The Fayette County Medical Society held its usual monthly meeting November 9, 1937, at 8 p. m., in the Assembly Room of the Methodist Church, at Montgomery.

The scientific program consisted of a paper, "Estrogenic and Gonadotrophic Hormone Therapy," read by Dr. Walter N. Rowley, Huntington, W. Va., and by special request, Dr. Rowley discussed informally the indications for pelvic surgery. It was the general concensus of opinion of the society that this program was the most interesting and informative that had been presented for a considerable period of time.

New members admitted to the society were Dr. L. S. Dillon, Powellton; Dr. W. B. Davis, Elkridge; Dr. A. J. Edelstein, Kimberly, and Dr. J. T. Peters, Scarbro.

G. A. DANIEL, *Secretary*.

HARRISON COUNTY

The regular monthly meeting of the Harrison County Medical Society was held at Clarksburg on November 4, 1937, with Dr. William F. Snow, Director of the American Social Hygiene Association of New York City, as guest. Dr. Snow gave a brief talk on the work being done by the various health agencies in the fight against syphilis.

The guest speaker of the evening was Dr. William Rienhoff, Jr., Associate Professor of Surgery, Johns Hopkins University, Baltimore. He gave a most interesting and instructive talk on "Diseases of the Gall-bladder and Gall Ducts," which was discussed by the members present.

J. G. RALSTON, *Secretary*.

MERCER COUNTY

An extensive discussion on the use of sulphanilamide featured the meeting of the Mercer County Medical Society which was held in the Municipal Building, Bluefield, October 28. Due to the nature of the program, the druggists of Mercer county were invited to attend.

Dr. R. C. Bunts led the discussion and recommended that all prescriptions for sulphanilamide carry the designation "No Refill." He also suggested that prescriptions be written for small amounts so that the doctors could see their patients every 36 to 48 hours. He was also opposed to counter prescribing.

Pharmacists discussing the problem were Harry Goodykoontz, Michael Flynn and Cabell B. Carlan. All agreed that there should be some control of the sale of this drug. A motion introduced by Dr. Hoge was unanimously carried that the society favor some definite restrictions being placed on the sale of sulphanilamide and allied compounds. Copy of the motion was ordered sent to the State Board of Pharmacy. Dr. Hoge also discussed the Harrison Narcotic Act with reference to revocation of license.

Dr. O. G. King presented a paper entitled "Dermatitis Eczematosa Due to Butesin Picrate," with case reports. Dr. H. G. Steele presented a paper on "Spina Bifida." He had three cases which had been successfully operated upon.

O. G. KING, *Secretary*.

MINGO COUNTY

The regular monthly meeting of the Mingo County Medical Society was held at the Williamson Memorial Hospital on the evening of September 23 with 14 members in attendance. Clinical cases were discussed by Doctors Alex Irvine, J. C. Lawson and George W. Easley.

Following a discussion of the office of City Health Officer of Williamson, the president appointed a Public Relations Committee to look after the interest of the society in its relations with the public when further disputes of this nature arise.

Dr. Irvine protested against the action of the school board in designating the examiners for school teachers and charging the school teachers for examinations. A motion of protest was unanimously adopted by the society.

Following the business session, a delightful meal was served by the Memorial Hospital, during which a round table discussion of the problems of the medical profession in Mingo county took place.

GEORGE W. EASLEY, *Secretary*.

MONONGALIA COUNTY

Dr. Amos H. Stevens, Fairmont, was the guest speaker at the meeting of the Monongalia County Medical Society which was held at the Hotel Morgan, Morgantown, November 2. Dinner was served at 6 p. m., after which Dr. Stevens presented a highly interesting discussion on "Prognosis and Late Manifestations of Rheumatic Heart Disease."

G. R. MAXWELL, *Secretary*.

LOGAN COUNTY

The Logan County Medical Society met on the tenth of November at the Aracoma Hotel, Logan, West Virginia. Dr. V. A. Deason, president, opened the meeting.

Dr. W. L. Cooke of Charleston presented the scientific program. His subject was "Early Diagnosis for Prevention of Tuberculosis." This presentation was followed by talking pictures entitled "Behind the Shadows." These were shown by Mr. George C. Rowell, executive secretary of the West Virginia Tuberculosis Association. Mr. Rowell also made a plea to the doctors for the formation of a Tuberculosis Society in Logan County.

At the December meeting the annual dinner and election of officers will take place.

J. L. PATTERSON, *Secretary*.

OHIO COUNTY

Dr. William J. Dieckmann, Associate Professor of Obstetrics and Gynecology of the University of Chicago Medical School was the guest speaker at the meeting of the Ohio County Medical Society, which was held in the Solarium of the Ohio Valley General Hospital, October 22. His subject was "Toxemias of Pregnancy — Five Year Report." Those discussing the papers were Dr. A. H. Stevens, Fairmont, and Dr. Carl Bickel, Dr. W. A. Cracraft, and Dr. D. A. MacGregor, Wheeling.

At the meeting of the society on November 4, also at the Ohio Valley General Hospital, Dr. William F. Braasch of the Mayo Clinic, Rochester, Minnesota, gave a highly interesting and instructive paper on "Common Lesions Found in the Urinary Tract of Children." Discussants were Dr. G. G. Irwin, Charleston, and Dr. R. D. Gill, Dr. J. T. Thornton and Dr. Russell Bond, all of Wheeling.

The Jacob Schwinn Essay for 1937-1938 was delivered at the meeting of the society by Dr. A. L. Jones, Wheeling, November 19. The meeting was held at the Ohio Valley General Hospital with an excellent attendance. Dr. Jones' subject was "Obstructive Uropathy."

The annual Jacob Schwinn lecture was established by the society as a token of respect to one of its outstanding members. The speaker is selected each year by the Jacob Schwinn Study Club from the membership of the Ohio County Medical Society.

W. C. D. MCCUSKEY, *Secretary*.

TRI-COUNTY MEETING

The Monongalia, Harrison and Marion societies met Tuesday, November 23, 1937 at six o'clock, in the Hotel Fairmont, Fairmont, West Virginia.

Following dinner which was served to a large number of representatives of the three societies, the scientific program was presented. The honor guest was Dr. A. C. Ernstene of Cleveland, Ohio, a member of the Cleveland Clinic. His topic was "Use of Drugs in Heart Disease." This was received with much interest on the part of those present and was variously discussed by members of the tri-county group.

DR. A. H. STEVENS, *Secretary*.

PARKERSBURG ACADEMY

A turkey dinner was served to the members of the Academy of Medicine of Parkersburg at the regular monthly meeting on the evening of November 4 at the Chancellor Hotel, Parkersburg. Following the dinner, all business was dispensed with, Dr. R. H. Boice was called upon to introduce the guest speaker, Dr. John H. Skavlem of Cincinnati, Ohio.

Dr. Skavlem gave a most interesting and well prepared paper on "Chronic Non-tuberculous Lung Infections." His paper was illustrated with lantern slides. The subject was well received and evoked able discussion by Dr. J. L. Wade, Dr. E. T. Goff, and Dr. R. H. Boice.

Prior to assembling for dinner at the Chancellor the members gathered at the home of Dr. and Mrs. Boice for a reception in honor of Dr. and Mrs. Skavlem.

Twenty-eight members and four visitors were in attendance.

B. B. NICHOLSON, *Secretary*.

COUNCIL MEETING CALLED

Dr. Charles G. Morgan, chairman of the Council of the West Virginia State Medical Association, has called the annual "year-end" meeting for December 16, 1937. The meeting will be held at the Association headquarters in the Public Library building, Charleston, beginning at 10 o'clock.

A number of important matters are expected to come before the Council meeting on December 16. Many of the Association's most important committees are expected to report at that time, and plans for the coming year will be made.

GENERAL NEWS

PUBLIC HEALTH MEETING

Dr. R. M. Peddicord, Wheeling, director of the Ohio County Health Unit, was elected president of the West Virginia Public Health Association at the annual meeting held in Charleston on November 8, 9 and 10, 1937. He succeeds Dr. W. G. C. Hill of Moundsville, who served during the past year. Other officers are Dr. C. E. Watkins, Fayetteville, first vice president; Dr. W. W. Hume, Beckley, second vice president and Dr. Thomas W. Nale, Charleston, secretary-treasurer.

Members elected to the Board of Trustees were E. S. Tisdale, Charleston; Helen M. Howell, Beckley; Dr. Edwin Cameron, New Martinsville; Dr. W. T. Booher, Wellsburg; Dr. T. E. Cato, Charleston and Matilda Ann Wade, Grantsville.

The annual meeting at Charleston was one of the most successful ever held by the Health Association, with a record attendance. Among the leading out-of-state speakers were Dr. Ernest A. Branch of the North Carolina State Health Department; Dr. Reginald M. Atwater, executive secretary of the American Public Health Association; Dr. H. L. Dunn and Dr. K. E. Miller of the U. S. Public Health Service, and Dr. Doris Murry of the Children's Bureau, Washington. Dr. W. S. Fulton, president of the West Virginia State Medical Association, was the banquet speaker.

SAN FRANCISCO HOTELS

The Board of Trustees of the American Medical Association has appointed Doctor Howard Morrow of San Francisco as general chairman of the Local Committee on Arrangements. Among other appointments of local sub-committees, Doctor Morrow has appointed Doctor F. C. Warnshuis, chairman of the Local Committee on Hotels.

Fellows are requested to send in their requests for hotel accommodations to Doctor F. C. Warnshuis, Suite 2004, 450 Sutter Street, San Francisco, California, giving names of members in party, type of accommodations desired, time of arrival and departure.

Assignment of accommodations and their confirmation will be made for each reservation request. Do not write directly to any hotel as all reservations will be cleared through the committee.

Banquet rooms and special dinners reservations must be made through the Hotel Committee. The same rule applies to special boards and allied organizational groups.

San Francisco affords first-class hotels capable of providing accommodations for 15,000 fellows and members of their families. However, early reservations are requested to avoid confusion and to insure individual choice. Those planning to visit San Diego, Los Angeles, Santa Barbara, Del Monte, Yosemite, or other California cities are urged to write in advance for hotel reservations in these cities. Following the American Medical Association Annual Session, the Rotary, Kiwanis, and Shriners hold their annual sessions in California. It is quite probable that many of the members of these organizations will visit points of interest before their conventions, thereby creating heavy demands on local hotels throughout the state.

A. M. A. EXHIBITS

Application blanks are now available for space in the scientific exhibit at the San Francisco Session of the American Medical Association, June 13-17, 1938. The Committee on Scientific Exhibit requires that all applicants fill out the regular forms.

Application blanks may be obtained from the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn St., Chicago.

HEART ASSOCIATION MEETS

The West Virginia Heart Association met in Charleston on Monday, November 22, 1937, at 1:30 o'clock in the Daniel Boone Hotel. The session was opened by Dr. W. C. Stewart, Charleston, president, who presided throughout. The attendance was representative of the various sections of the state.

The scientific program was presented as follows:

"Late Manifestations and Prognosis in Rheumatic Heart Disease" by Dr. A. H. Stevens, of Fairmont, W. Va.

"Pathology of Rheumatic Heart Disease" by Dr. W. Putschar, Charleston, W. Va.

"Roentgenology and Rheumatic Heart Disease" by Dr. Vernon L. Peterson, Charleston, W. Va.

"Recent Developments in the Etiology and Diagnosis of Rheumatic Fever" by Dr. Edwin Wood, Jr., University of Virginia, Charlottesville, Virginia.

"The Electrocardiogram in Rheumatic Fever" by Dr. Lemuel C. McGee, Davis Memorial Hospital, Elkins, West Virginia.

Great interest was displayed in all of the above papers by those present.

EARLY IMMUNIZATIONS

It is to be admitted that six years of age is late to immunize the child against diphtheria and smallpox. With the new immunization law having gone into effect with the opening of school, there is an added responsibility on our physicians to see that their patients are immunized early.

Diphtheria: Since infants have a high degree of passive immunity transferred from their mothers which lasts only from four to six months, the ideal time to immunize these children is between the ages of six months and a year. Eighty per cent of all deaths due to this disease occur under five years of age and the maximum age incidence of the disease is from five to seven years. The child's immunity is at its lowest between the ages of six months and five years.

Smallpox: Vaccination against smallpox is necessary to prevent epidemics of this disease. According to Rosenau, "Smallpox affects both the rich and the poor, the high and the low, the wise and the foolish, the good and the bad and the clean and the dirty." This should cover most of the individuals in our state. All of our improvements in personal hygiene and sanitation will not affect the spread of smallpox. Everyone should be vaccinated in the first year of life. At this age there is less reaction and fewer complications.

Our physicians deliver over ninety per cent of all the infants born in West Virginia. If each physician immunizes all of the children he delivers before they are a year old, our children will be immunized at the proper time and the physician will be doing the immunizations. There is no check on the children until they enter school and therefore at this time the immunization law is effective. Physicians have always done these immunizations and we want them to continue to do so. If the physicians do not do these immunizations, it is the responsibility of our county courts to have these immunizations done during the first month of school. This means that wherever there is a county health unit, this body as a representative of the county court must do these immunizations.

Physicians, do your immunizations early and these diseases will be eradicated. It will be a dis-

tinct benefit to the people of West Virginia and at the same time a benefit to the physicians. Early follow-up work among the infants on your part holds families for your practice.

ARTHUR E. MCCLUE, M. D.

FEDERAL POSITIONS

A number of vacancies are now available for physicians under the Civil Service Board at salaries ranging from $3200 to $5600 per year. A rotating interneship and a psychiatric residency are also available at $2,000 per year.

The vacancies include the following:

Principal Specialist in Maternal and Child Health, $5,600 a year; Senior Specialist in Maternal and Child Health, $4,600 a year; Specialist in Maternal and Child Health, $3,800 a year; Associate in Maternal and Child Health, $3,200 a year; Associate Biochemist (Syphilis Research), $3,200 a year; Junior Medical Officer (Rotating Interneship), $2,000 a year; Junior Medical Officer (Psychiatric Resident), $2,000 a year.

The necessary application forms may be obtained from the Secretary of the United States Civil Service Examining Board, from the United States Civil Service Commission, Washington, D. C., or from the postmaster at any first-class post office. Further information may also be obtained from the Association Headquarters. Applications must be on file by December 28, 1937.

EYE HEALTH PROBLEMS

Plans for a study of the eye health problems of college students are being made by the Eye Health Committee of the American Student Health Association with the aid of an Advisory Committee from the American Academy of Ophthalmology. The project will have the cooperation of the National Society for the Prevention of Blindness.

R. W. Bradshaw, M. D., of Oberlin College, Oberlin, Ohio, is chairman of the Eye Health Committee of the American Student Health Association; W. L. Benedict, M. D., of Rochester, Minn., is chairman of the Advisory Committee from the American Academy of Ophthalmology; and Anette M. Phelan, Ph.D., represents the National Society for the Prevention of Blindness.

Dr. Bradshaw's committee includes Lee H. Ferguson, M. D., Western Reserve University, Cleveland, Ohio; L. M. Hickernell, M. D., Syracuse University, Syracuse, N. Y.; and Ruby L. Cunningham, M. D., University of California, Berkeley, Calif.

The inadequacy of present methods of discovering college students who need ophthalmic attention has impelled the American Student Health Association to seek the active help of ophthalmologists in dealing with this problem, according to Dr. Bradshaw.

Serving on Dr. Benedict's committee of ophthalmologists are LeGrand H. Hardy, M. D., of New York City, and Harry S. Gradle, of Chicago, Ill.

GROUP HOSPITALIZATION SURVEY

The merits and defects of group hospitalization and hospital insurance plans are adequately discussed in a new report recently issued by the Bureau of Medical Economics of the American Medical Association under the title "Group Hospitalization." This report is filled with facts of vital importance to every physician and hospital administrator in this country.

Among the many problems discussed in the report, is found the important effect of these plans in the practice of anesthesia, radiology and pathology. Other questions discussed include technical versus professional services, payment methods for medical specialties in hospitals, hospital service contract benefits and limitations and financial results.

The report is made up in book form, consisting of 296 pages, fully indexed. Single copies may be obtained at 75 cents per copy from the American Medical Association, 535 North Dearborn Street, Chicago.

FROM OTHER JOURNALS

MYSTERY AND MEDICINE

The mystery and magic of medicine which characterized the dark age of devils, drugs and doctors, is rapidly passing, but not fast enough for the medical profession of the West Coast. Here we are told that the chief ambition of the Division of Health and Sanitation of the 1939 Golden Gate International Exposition is to extract forever from the American scene the notion that anything but common sense and natural law governs disease processes and man's therapeutic approach to them. Those of us who will take the trouble to cross the continent to witness the wonders of this record-breaking exposition may expect to see the cherished beliefs of

centuries exploded before our wondering eyes. As never before, the public is to be taken behind the scenes. How simple it will be when the man on the street realizes just how this machine of ours is constituted and runs, how plain are the reasons why it runs badly, runs amuck, or refuses to run at all, and what a simple mechanic job it is to repair, rebuild and protect from injury. All of this is to be made plain two years hence on the world's largest man-made island in the balmy bay of San Francisco. —*Virginia Medical Monthly*.

SULFANILAMIDE ON TRIAL

This new agent of chemotherapy is now in the hands of the general practitioner. With him rather than with the experimental laboratory rests the decision as to the extent of its future clinical usefulness. All of the indications of sulfanilamide are at this time not entirely clear. Among the cocci it seems to carry a high degree of specificity for the beta or hemolytic type of streptococcus. For other streptococci it appears to be less effective, failing altogether in cases of urinary infection of streptococcal origin. Sulfanilamide is without influence upon staphylococci. In pneumococcal infections there are conflicting reports. In infections caused by the gonooccus it is said to be curative in a considerable percentage of cases. In meningococcal meningitis some surprising results have been reported.

The toxic manifestations of this powerful therapeutic agent have assumed increasing importance with wider clinical experience. The sudden elevations of temperature accompanied by leucocytosis which come on occasionally after a week or more of medication with sulfanilamide have occasioned considerable confusion, but due to the rapid excretion of the drug these may speedily be eliminated by forcing fluids and withholding the medicine. Severe anemia, skin eruptions, personality changes, cyanosis, dizziness, lassitude, dyspnea—any one of these complications may intervene and in proportion to their severity dictate a modification or an abandonment of the treatment.

The recent newspaper publicity given a number of sulfanilamide deaths justifies continued caution in this type of therapy. It appears to be uncertain whether these deaths were due to the addition of diethylene glycol itself or to increased rate of absorbability resulting from the combination of the two drugs in an elixir.—*Virginia Medical Monthly*.

THE PHYSICIAN-WITNESS

Every physician is a potential witness. He can anticipate being asked to testify sooner or later. For that reason he should know something about court procedure and should know how to conduct himself on the witness stand.

We like the sound advice found in an editorial prepared by the Medical Advisory Committee of the Minnesota State Medical Association and published in a recent issue of *Minnesota Medicine*, reading as follows:

"1. *Dignity of Manner*. A medical man is a marked individual in a court room. A 'don't care' attitude is not good. A frightened one gives a smart lawyer his chance, but a cool, calm demeanor with a 'be yourself' bearing makes for ease under most unusual and trying circumstances.

"2. *Simplicity of Words*. This comes from the application of common sense born, possibly, of experience and the ability to stick to the truth at all times. One should 'know his stuff' and 'say his piece' simply but convincingly.

"3. *Preparedness*. Preparedness means a complete history of the case in point, unaltered in wording, as made at the time of examination, not embellished by superfluous thoughts or unnecessary findings—a history truthful and reliable which will convince the Court that the testimony being given is right and for the purpose of getting at the truth in the case so that the correct decision may be reached by judge or jury.

"4. *Explain: Do Not Argue*. Be explicit in answer to questions, intelligent in explanation of contested points, and kind in demeanor to the witness on the opposite side of the question. An argumentative attitude makes one a mark for sharp questioning and ridicule.

"When you are right remember you can afford to keep your temper. When you are wrong you can't afford to lose it.

"The medical witness can well keep in mind that dignity, simplicity of words, thorough preparedness and a non-argumentative bearing are the qualities best suited to inspire and command respect in court as well as elsewhere."—*Ohio State Medical Journal*.

ENFORCED REGIMENTATION

Intensive public agitation for regimentation of the medical and allied professions through legislation in favor of compulsory health insurance, state medicine and devious other schemes is scheduled

for the forthcoming session of Congress and throughout the year 1938. Proponents of the schemes hope to make this iniquitous state of affairs a federal as well as local measure throughout the United States.

When the Volstead Act was wiped off the statute books by a nation incensed at the results of a measure both ill-advised and, on the part of the nation's voters, at least, a highly misunderstood measure at the time it was put to the ballot—general opinion was that the United States was through with "noble experiments." This crusade for the made-in-Europe, un-American and unnecessary infliction upon the United States of compulsory health insurance stands witness to the fact that when it comes to a question of freak legislation, all America needs a stiff lesson in the old Yankee principle of "*Caveat Emptor.*"

No matter how canny we are in business or romance, the fact remains that the average American will buy any kind of legislation at any time if he thinks it sounds well. Perhaps this is not surprising in a land where "patent" and "proprietary" nostrums flourish as the "green bay tree." When it comes to a choice between quack nostrums and compulsory health insurance there is something to be said in favor of the nostrum. The purchaser wrecks only his own health and depletes only his own pocketbook thanks to the element of volition in the use of such messes. When compulsory health insurance is "legislated" upon an innocent public, there will be no escaping its tentacles, nor the ever increasing burden of taxation for the upkeep of a lay bureaucracy whose function in life, outside of drawing fine pay for a fat job will be to play Simon Legree to scientific medicine.

That is the long and short of the matter. The appeal of "health insurance" is an appeal to the emotions. Economically and scientifically it is unsound. The average man or woman who is attracted by the richly alluring slogans of the crusaders is of the idea that this public health insurance will be as magical as the waters for which Ponce de Leon sought—and died in the seeking. The idea of this public health insurance is ladled out to the populace, as a young Golconda that can be obtained for the asking.

That something cannot be had for nothing, that a man can take out of his pocket only as much as he puts in, never occurs to the mislead citizenry that still does not realize that the increase in taxation burdening the nation is due to the extravagant socialistic projects and overcentralization that place entirely too large a portion of the people on tax-exempt government payrolls. Europe is accustomed to such bureaucratic grabs, to escape which the early American colonists suffered hardship and death in the founding of this democracy.

Never in the hey-day of German medicine (and Bismarck and the Prussian empire begot the health insurance scheme) was there such an equable medical system as has always maintained in the United States—a system made to fit American needs and emergencies. Social construction, economic mechanics and all the functioning of daily life in the United States are as different from that in the old world as is right from left. What fits Europe and European standards of living is a misfit here.

Looking more closely into the situation, it appears that compulsory health insurance does not even fit Europe, the country for which it was custom-tailored. Even the warp and woof from which the scheme was manufactured is incompetent to the point of worthlessness. To begin with, statistics evidence that there is no diminishing of sickness or lowering of mortality rates in those countries with health insurance while on the other hand the cost increases at an appalling ratio. According to these statistics (which have been repeatedly printed in this journal and others) public health insurance stands indicted by its own functioning. Peoples who possess it pay too much for nothing.

Frederick L. Hoffman, LLD, ranking as one of the foremost statisticians of the time, has declared aptly that the death rate is the ultimate test of skill and attention in medical practice.

(Taking cancer alone as an example, to refresh the memory from figures printed here previously, in England and Wales under health insurance in 1934 the death rate was 156.3 per 100,000. In the United States, without public health insurance it was only 106.3. In England and Wales, anemia-chlorosis showed a death rate of 6.6 per thousand, as against 3.1 in the United States. As to rheumatic fever, the rate was 3.4 in England and Wales as against 1.8 for the United States.)

Here is a definite comparison that can be carried on almost without end, in practically any group of ailments, and it shows better results without health insurance than with it. And, that too, without the onus of increased taxation, ever augmented bureaucracy and overdeveloped public dependency which are the inevitable concomitant of public and compul-

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WOMAN'S AUXILIARY

FAYETTE COUNTY

The Woman's Auxiliary to the Fayette County Medical Society held a luncheon meeting at the White Oak Country Club, Oak Hill, Thursday, October 21, 1937. Mrs. H. F. Troutman, president, presided.

Mrs. E. H. Starcher, state president and Mrs. J. L. Patterson, state secretary, were honor guests. Mrs. Starcher gave a very interesting talk on what the individual woman means to an Auxiliary.

Mrs. R. P. Daniel and Mrs. B. B. Richmond of Beckley, representing Raleigh county, disclosed plans to organize an Auxiliary to the Medical Society in their county.

Mrs. W. B. Davis of Elkridge gave a very enlightening review of "Shadow on the Land" by Thomas Parran, Jr.

The November meeting of the Fayette Auxiliary will be held in Montgomery.

MRS. R. D. KETCHUM, *Secretary*.

MARION COUNTY

The Auxiliary to the Marion County Medical Society met on October 26 at the Hotel Fairmont, Fairmont, W. Va. Mrs. Philip Johnson presided. Twenty-five members were present.

Mrs. E. H. Starcher of Omar, W. Va., president of the State Auxiliary, and Mrs. V. E. Holcombe, program chairman of the Auxiliary to the American Medical Association, of Charleston, W. Va., were honor guests of the meeting. Mrs. Starcher addressed the group on the subject "The Individual Woman." Mrs. Holcombe's subject was "Health Education."

Following the program business was dispensed with and a social hour enjoyed.

MRS. BLAKE LEMLEY RAMAGE, *Secretary*.

McDOWELL COUNTY

A meeting of the McDowell County Medical Society Auxiliary was held at the home of Mrs. A. H. Bracey in Welch, October 13. Mrs. E. Vermillion, president, presided. Fourteen members were present.

During the business session a donation of $10.00 was made to the Crippled Childrens' Fund.

Mrs. J. Howard Anderson, program chairman, presented each member with a most attractive year book.

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Mrs. H. P. Evans and Mrs. C. C. Cochran helped with the Tuberculosis Clinic which was held recently in Welch. All members of the Auxiliary were urged to participate in any civic projects of this nature.

MRS. H. P. EVANS, *Secretary.*

PARKERSBURG ACADEMY

Mrs. B. S. Parks and Mrs. H. A. Giltner, both of Parkersburg, were hostesses at a luncheon meeting for the Women's Auxiliary to the Parkersburg Academy of Medicine at the Chancellor Hotel, Parkersburg, on November 8, 1937.

Mrs. O. D. Barker, president, was in charge of the business meeting during which the distribution of *Hygeia* was discussed. Plans were also made for continuance of the "sewing" periods at the local hospitals.

Mrs. Archbold M. Jones presented a paper entitled "The Pilgrim Physician" by Catherine Cate Coblentz. This was received with much interest and enthusiasm.

MRS. B. O. ROBINSON, *Secretary.*

ENFORCED REGIMENTATION

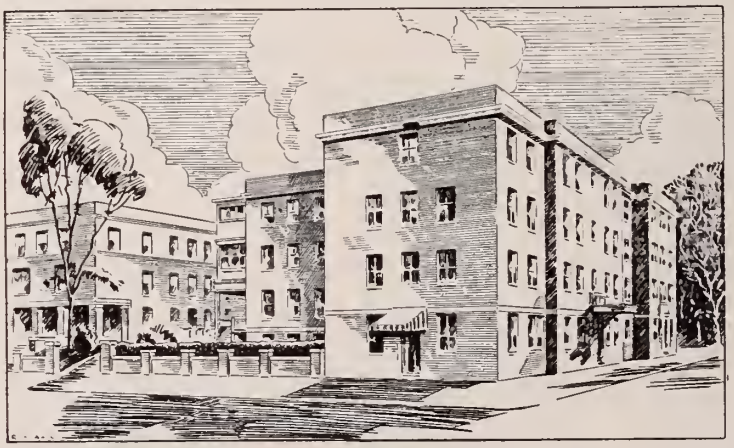
(Continued from page 575)

sory health insurance or state medicine.

Quoting from Dr. Hoffman, let it be emphasized that "the worst feature of compulsory health insurance is that it lowers the standards of medical practice, hinders medical progress and brings about the regimentation of the medical profession to virtually the standard of a labor union. * * * Further mass treatment reduces the adequate consideration of serious or chronic cases, which consideration is then often very superficial due to the demands upon the doctor for the treatment of less serious complaints. * * * In a comparison of forty-two causes of death between England and Wales with compulsory health insurance, and in the United States where compulsory health insurance does not maintain, all but ten were more common in England and Wales than in this country. Hence the general conclusion must be that most of the principal causes of death prevailed at a lower rate in this country than in England and Wales under compulsory health insurance."

Dr. Hoffman has compiled lengthy tables to illustrate his tests of comparative mortality figures, con-

McMILLAN HOSPITAL Charleston, W. Va.



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● The scope of the work of the sanatorium is limited to the diagnosis and treatment of nervous and mental disorders, alcoholic and drug habituation. Every helpful facility is provided for these purposes, and the institution is well equipped to care for such patients. It affords an ideal place for rest and upbuilding under medical supervision. Six physicians reside at the sanatorium and devote their entire attention to the patients. A chartered training school for nurses is an important part of the institution in providing especially equipped nurses—both men and women—for the care of the patients.

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trasting panel practice (Compulsory Health Insurance) and private medical practice. Made without prejudice and in an earnest effort to discover the truth the results are all against compulsory health insurance as an asset to American life. Rather was it found to be a decided liability and a drain upon income and surplus.

The United States has grown to independence and power through systems that have made for self-reliance on the part of its citizens rather than a national leaning upon public funds, and it is this dependence upon public funds which is one of the keynotes of compulsory health insurance. What this current crusade to install compulsory health insurance in the United States involves then, is the socialistic, aye the almost communistic creed of an enforced paternalism that must by its very nature destroy rather than protect. Compulsory health insurance, like all socialistic ideas, is dear to the heart of the social worker, whose very livelihood arises from mass undertakings encouraging public dependence. Under any system of compulsory health insurance medicine becomes the prerogative of the laity rather than the profundity of a profession—*Illinois Medical Journal.*

REHABILITATION CASES

The Department of Adult Physical Rehabilitation, headed by Mr. Charles W. Ritter at Charleston, has requested that all Association members keep on the lookout for prospective rehabilitation cases and report such cases to their local county public assistance directors. The department at Charleston is particularly interested in contacting "breadwinners" and heads of families who are unable to secure gainful employment because of some remedial physical handicap.

In commenting on the future of the rehabilitation program, Mr. Ritter said that his department could be materially aided by the physicians if they would report all cases susceptible to rehabilitation surgery. He pointed out that such persons need not be receiving direct relief, but should be able to qualify for relief before being acceptable as rehabilitation patients.

In the few months that the rehabilitation program has been operating, Mr. Ritter said that more than five hundred heads of families had been removed from the relief rolls through rehabilitation surgery and restored to their respective family physicians as private patients.

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CONFERENCE OF SECRETARIES

The annual conference of Secretaries of Constituent State Medical Societies was held at the headquarters of the American Medical Association, Chicago, on November 19 and 20, 1937. West Virginia was represented by Mr. Joe W. Savage for the Association and Dr. W. E. Vest, Huntington, for the WEST VIRGINIA MEDICAL JOURNAL. Dr. J. R. Bloss, Huntington, was also in attendance in his capacity as a member of the A. M. A. Board of Trustees.

The conference was called to order by Dr. Arthur W. Booth, chairman of the Board of Trustees, and opened with an address by Dr. J. H. J. Upham, Columbus, A. M. A. president. Dr. Irvin Abell, A. M. A. president-elect, addressed the conference on Friday afternoon.

Among the interesting subjects presented at the conference included "Student Health Services" by Dr. J. D. Laux of the A. M. A. Bureau of Medical Economics, "Uses and Benefits of State Association Exhibits" by Dr. Eben J. Cary, Milwaukee, a symposium on "Extension (Postgraduate) Courses of State Medical Associations," "Maternal and Child Health" by Dr. Leroy A. Wilkes, Trenton, "Pneumonia Control Program" by Dr. Peter Irving, New York, "Better Papers for State Medical Journals" by Dr. J. H. Dempster, Detroit, and a discussion of important medico-legal problems by Dr. W. C. Woodyard, Director of the A. M. A. Bureau of Legal Medicine and Legislation.

BOOK REVIEWS

CONCEPTS AND PROBLEMS OF PSYCHOTHERAPY

"Concepts and Problems of Psychotherapy" was written by Leland E. Hinsie, M. D., Professor of Clinical Psychiatry, College of Physicians and Surgeons, Columbia University; Assistant Director, New York State Psychiatric Institute and Hospital; Auther of "Treatment of Schizophrenia," "Syllabus of Psychiatry" and "Electropyrexia in General Paralysis." The book contains 114 pages, is illustrated and is priced at $2.75. Published at Columbia University Press, Columbia University, New York, N. Y.

The aim of the book is to indicate the general conceptions that prevail with respect to the structure

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and functions of the mind, and to show, as well as possible, what influence these conceptions have had upon the problems of psychotherapy. The book, though oriented in therapy, presents much more. The author has given an evaluation of psychiatric methods of study and of the current concepts of the mind. His work is an attempt to gain a comprehensive view of the facts in a subject or field much too extensive to be exclusively monopolized by one method of investigation. Physicians and students who are making serious efforts to understand the development and applications of psychotherapy, and to get to the root of the situation, will find this book a welcome guide, formulated from a wide background of experience. Hinsie does not represent an attempt to provide additional proof of the validity of any particular school of psychological training. He has simply made an honest assay of the applications of psychological knowledge to various fundamental problems of psychiatry.

The purpose of ventilation is not to bring outdoor conditions indoors; the art of ventilation consists of adapting indoor conditions to indoor life.—*Hygeia.*

WITH OUR ADVERTISERS

SMITH, KLINE AND FRENCH

Molitch and Poliakoff (Arch. Pediat., 54:499, Aug., 1937) recently investigated the effect of 'benzedrine sulfate' (benzyl methyl carbinamine sulfate, S. K. F.) in enuresis.

Twenty-two nightly offenders, from nine to 17 years old, were isolated and first given inert placebos. Eight boys, or 36 per cent, remained "dry" with this psychotherapeutic treatment. Those who continued "wet" were given 'benzedrine sulfate' in a 2.5 mg. dose, increased where necessary to as high as 20 mg. Two unstable children failed to respond to treatment, even when the dosage was greatly increased.

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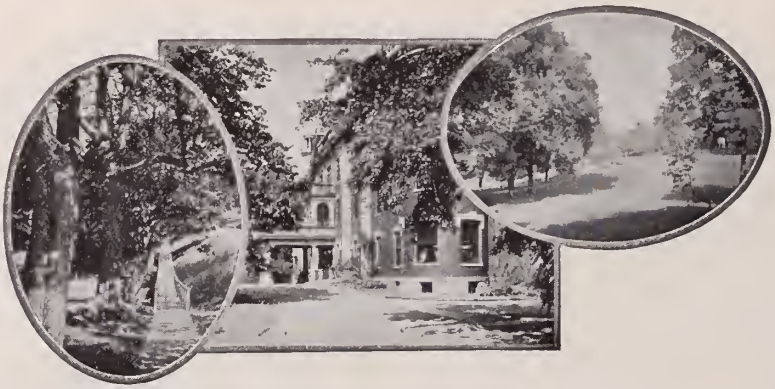

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'Benzedrine sulfate' is of apparent value in certain cases of enuresis. The authors suggest that the dose be decreased and eventually eliminated when night continence is established.

MEAD JOHNSON

Winter is a jailer who shuts us all in from the fullest vitamin D value of sunlight. The baby becomes virtually a prisoner, in several senses: First of all, meteorologic observations prove that winter sunshine in most sections of the country averages 10 to 50 per cent less than summer sunshine. Secondly, the quality of the available sunshine is inferior due to the shorter distance of the sun from the earth altering the angle of the sun's rays. Again, the hour of the day has an important bearing: At 8:30 A. M. there is an average loss of over 31 per cent, and at 3:30 P. M., over 21 per cent.

At this season, the mother is likely to bundle her baby to keep it warm, shutting out the sun from the child's skin; and in turning the carriage away from the wind, she may also turn the child's face away from the sun. Moreover, as Dr. Alfred F. Hess has pointed out, "it has never been determined whether the skin of individuals varies in its content of ergosterol" (synthesized by the sun's rays into vitamin D) "or, again, whether this factor is equally distributed throughout the surface of the body."

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THE WEST VIRGINIA

MEDICAL JOURNAL

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Christmas Greetings

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For the Middle-aged

The so-called "degenerative diseases" have long made middle age a hazardous age, and millions old before their time. With increasing understanding of circulatory disturbances, kidney disorders, and other ailments, Medical Science has prolonged the "prime of life".

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